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G. M. Christman

1961

Catalogue

#725-849

Sierra del Nido,
Chihuahua, Mex

1961

Sierra del Nido

Jane M. Christman


1. Species accounts & Catalogue
2. Journal (with index)
3. Journal - general notes and
comments
index
4. Catalogue of Plant Collection
with notes.

Christman, J. H.
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Catalogue

3.

14 August Amago del Mesteño, Chihuahua, 9,000 ft., Mexico
Sierra del Hido

- 725 ♀ imm. Junco mexicanus no fat, skull not ossified 17.5 gms
726 ♂ imm. Contopus pertinax no fat  testes = 2 mm. 23.9 gms
727 ♂ imm Empidonax fulvifrons no fat ^{small white oss} testes = 1 mm. 18.1 gm.
728 ♀ ad Pipilo erythrop. — no fat skull ossified 39.4 gm
729 ♂ Sceloporus
730 ♂ imm. Dendroica 18.4 gm.
731 ♂ Dendrocopos no fat, testes = 1 1/2 mm. 58.6 gm
732 ♂ Eptesicus very fat; 107-38-11-15; testes 6x4 mm; 17.2 gms

15 August

- 733 ♂ imm Vireo huttoni no fat, skull not ass. testes - 1 mm; 2.1 gms
734 ♀ ad Sitta carolinensis not fat, skull ass., tiny avian 19.3 gms
735 ♂ Dendrocopos arizonae slight fat, testes - 1 mm. 47.7 gms
736 ♂ Certhia familiaris no fat, skull ass. testes - 1 mm 7.3 gms
737 ♀ Contopus no fat, skull ass 11.4 gm.
738 ♂ " slight fat, skull not ass. testes - 1 mm 12.8 gm
739 ♀ Dendroica graciae skull not ass., moderate fat. 18.0 gm

17 August

- 740 ♂ Piranga flava no fat, skull assif.; testes 1 1/2 mm 41.6 gms
741 ♂ Nuttallornis borealis moderate fat, skull ass. testes 2 mm 32.8 gm
742 ♂ Dendroica townsendi fat, skull not ass., testes 1 mm. 8.9 gm
743 ♂ Parus sclateri slight fat, testes 1 mm. skull not ass. —
744 ♂ Piranga flava no fat, skull ass., testes 3 mm. 42.5 gm
745 ♂ Dendroica nigrescens moderate fat, skull not ass. tiny testes 8.5 gm
746 ♂ Dendroica townsendi moderate fat, testes tiny, skull not ass. 9.1 gm
747 ♂ " " moderate fat, skull not ass. testes tiny 9.3

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Arroyo Mesteno, 9,000 ft., Sierra del Rio, Chihuahua, Mexico

18 August

- 748 ♂ *Sceloporus jarrovi*
749 *Peucedramus taeniatus*
750 *Empidonax fulvifrons* fledgling } alc.
751 " " "

19 August

- 752 ♂? *Pipilo fuscus* moderate fat, skull not ass. 42.6 gm
753 ♀ ad *Progne subis* slight fat, many small white ova; skull ass. 47.9 gm
754 ♀ ad *Certhia familiaris* no fat, small ova, skull ass. 7.5 gm
755 ♀ imm ^{Wilsonia} ~~Dendroica~~ *pusilla* slight fat, small ova, skull not ass 7.7 gm
756 ♂ imm. *Sitta* slight fat, tiny testes, skull not ass. 9.4 gm
757 ♀ *Caprimulgus vociferus* no fat, skull ass., ova white 1/2 mm 38.4 gm
758 ♀ imm *Myotis thysanoides* 73-28-10-16 away - 1 mm fat 4.9 gm
759 ♀ imm. *Tachycineta thalassina*, ^{very small ova} moderate fat, skull not ass., 16.5 gm

20 August

- 760 *Contopus pertinax* alc. 21.6 gm
761 ♀ ad *Peucedramus taeniatus*, no fat, skull ass., tiny ova 10.4 gm
762 ♂ ad. " " no fat, skull ass. testes - 1 mm. 10.9 gm
763 ♂ ad. *Sayornis nigricans* no fat, skull ass., testes 2 x 1 mm 20.1 gm
764 ♂ ad *Parus sclateri* no fat, skull ass. testes 1 mm 11.7 gm
765 ♂ *Hylocharis leucotis* very fat, skull ass. testes - 1 mm. 4.3 gm
766 ♀ *Glacidium gnoma* skull ass., fat, small granular ova 62.1 gm
767 ♀ *Dendroica townsendi* fat, skull not ass. 9.3 gm
768 *Toxostoma curvirostre* 75.4 gm

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Catalogue

Arroyo Mesteño, 9,000 ft., Sierra del Nido, Chihuahua, Mexico

21 August

- 769 ♂ ad. *Empidonax fulvifrons* slight fat, skull ass., testes - 1 mm. 8.9 gm.
771 ♂ ad. *Dendroica townsendi* fat, skull ass., testes - 1 mm. 9.0 gm.

Arroyo Mesteño, 7,800 ft., Sierra del Nido, Chihuahua, Mexico

22 August

- 770 ♂ *Lynx rufus* 829-135-170-73, testes 13x21 mm, wt. 9.4 K
772 ♂ *Stix occidentalis* no fat, testes 4x2 mm, wt. 536.8 gm.
773 (♂ ad.) *Odocoileus canesi* Pick up: skull-Antlers, jaw, pelvis.

23 August

- 774 ♂ *Caprimulgus vociferans* slight fat, testes 3x2 mm 54.6 gm.
775 ♀ imm. *Parus wollweberi* no fat, skull not ass., small away 10.3 gm.
776 *Empidonax ? affinis* 11.5 gm.
777 ♂ ad. *Vireo gilvus* skull ass., slight fat, testes 2 mm. 11.8 gm.
778 ♀ ad. *Vireo solitarius* skull ass., slight fat, small away 19.9 gm.

24 August

- 779 *Serrhonotus kingi*
780 *Sceloporus jarrovi*
781 ♂ ad. *Aimophila ruficeps* no fat, skull ass., testes 8x6 mm. 20.3 gm.
782 ♂ imm. *Parus sclateri* testes - 1 mm, no fat, skull not ass. 10.6 gm.

25 August

- 783 ? ad *Pipilo* no fat, skull ass. 43.4 gm.
784 *Empidonax fulvifrons* alch. 8.4 gm.
785 *Dendrocopos arizonae* 51.3 gm.

1 mi. S, 1/2 mi. E. Santa Clara, Chihuahua, Mexico

- 786 ♂ *Chordeiles minor* moderate fat, testes - 1 mm. 51.5 gm.
a. t. e. k. a. n. u. s

Catalogue

6,100 ft.

1 mi. S., 1/2 mi. E., Santa Clara, Rio Santa Clara, Chihuahua, Mexico

26 August

- 787 ♂ imm. *Icteria virens* skull not ass., testes - 1 mm.
- 788 ♀ ad. *Aphelocoma coerulescens* skull ass., 86.7 gm
- 789 ♂ *Piranga rubra* skull ass. testes - 1 mm. 35.7 gm
- 790 ♂ ad. *Quiraca caerulea* skull ass., testes 6x10 mm. 32.7 gm
- 791 ♂ ad. *Anas diazi* testes 12x5 mm. very fat. 1162.7 gm
- 792 ad. *Pyrocephalus rubinus* skull ass. no fat 14.8 gm
- 793 ♂ ad. " " skull ass. testes - 1 mm. no fat 13.7 gm
- 794 ♂(?) *Empidonax oberholseri* skull not ass. 11.5 gm
- 795 ♀ ad. *Accipiter cooperii* paired ovaries - minute ova. 414.6 gm
- 796 ? imm. *Thryomanes bewickii* skull not ass. 9.9 gm

27 August

- 797 ♂ imm. *Poliophtila caerulea* skull not ass. testes - 1 mm. slight fat 5.9 gm
- 798 ♀ imm. *Piranga* skull not ass., tiny ovary broad patch 34.9
- 799 ♂ *Geococcyx californianus* testes 12x6 mm. 314.9
- 800 ♀ imm. *Mimus polyglottus* skull not ass, slight fat 51.1
- 801 ♂ ad. *Riparia riparia* skull ass., testes 2 mm 16.2
- 802 *Vermivora virginiae* 8.1
- 803 imm. *Pyrocephalus rubinus* alc. 14.4
- 804 ♂ *Thamnophis* X 418 S-V alc. 37.3
- 805 ♂ *Dendroapus scalaris* imm. testes 36.5
- 806 ♀ " " ova up to 2 mm. 7.5 gm
- 807 ? ad. *Vermivora virginiae* skull ass.

29 August

- 808 ♀ ad. *Hirundo rustica* skull ass. broad patch, many - imm ova. 16.4
- 809 ♂ ad. *Passer domesticus* skull ass., testes 5x3 mm. 28.9 gm

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Ojo de Laguna, 5,200 ft., 25 mi. S. Gallago, Chihuahua, Mexico1 September

- 810 ♂ ~~so~~ ad *Aimophila* skull ass., testes 3x4 mm. ^{right fat} 18.5 gm
- 811 ♀ *Myotis velifer* 97-41-11-16, no embs., very fat, 10.2 gm
- 812 ♂ imm. *Tachycineta thalassina* skull nat ass., testes 2 mm ^{fat} 16.9 gm
- 813 ♂ imm. ~~*Euphonia*~~ *traillii* NKJ. ~~*Contopus sordidulus*~~ skull nat ass., testes 1 mm. ^{fat} 13.9 gm
- 814 ♂ imm. ~~*Chordeiles*~~ *a. texanus* testes 2 mm. —

2 September

- 815 ? imm. *Riparia riparia* skull nat ass. 13.6 gm
- 816 ♀ ad. *Myiarchus* skull oss., minute ova. 26.7 gm
- 817 ♀ ad *Campylorhynchus brunneicapillus*, skull ass. — ^{old blood patch} fat 38.0
- 818 *Contopus richardsonii* alc. 11.8
- 819 ♂ ad. *Myiarchus* skull ass., no fat, testes 2 mm 28.7
- 820 ? imm. *Oporornis tolmiei* skull nat ass., no fat 10.3 gm
- 821 ♀ ad. *Dendroica petechia* skull oss., tiny ova 8.3
- 822 ♀ imm. *Poliophtila caerulea* skull nat ass. 5.3

3 September

- 823 ♀ no embs. *Dipodomys spectabilis* (Coll. Pontrelli) 326-178-51-16 124.7
- 824 ♀? imm. *Molothrus ater* skull nat ass. moderate fat 30.0

5 mi. N. Cerro Campana, 5,600 ft., Sierra del Hielo, Chihuahua, Mexico4 September ^{mammary glands dev.}
4 embs. X 3.5 mm CR 5 placental scars

- 825 ♀ *Sigmodon ocharactus* 219-92-24-15 67.6 gm
- 826 ♀ imm. *Carpodacus mexicanus* skull nat ass., slight fat 21.3
- 827 ♀ ad *Guiraca caerulea* ^{ova up to 1 mm} skull ass., blood patch 26.5
- 828 ~~*Odocoileus*~~ picks up lower jaw
yearling cow

Catalogue

24 mi. W. Gallego, 5,200 ft., S. edge Sierra Mojana, Chihuahua, Mexico

5 September

829 ♂ imm. *Piranga ludoviciana* ^{heavy fat} skull not ass.; testes 1½ mm. 31.0

6 September

830 *Myiarchus cinerascens* alc. 26.1

831 ♂ ad *Myiarchus cinerascens* skull ass., testes 2 mm. 30.0

832 ♂ ad *Icterus bullockii* skull ass., testes 2x2 mm. slight fat 38.2

833 ♂ imm. *Contopus sordidulus* slight fat, skull not ass., testes 1 mm 12.8

834 ♂ imm. *Vireo gilvus* slight fat, skull not ass., testes 1 mm 11.2

835 ♂ imm. *Spizella breweri* skull not ass., testes minute 9.7

7 September

836 *Nuttallornis borealis* alc. 35.7

837 *Phagnosoma modestum*

838 ♀ imm. *Aimophila cassinii* skull not ass., moderate fat 19.0

839 ♂ imm. *Calamospiza melanocorys* ^{moderate fat} skull not ass., testes 2 mm. 38.2

840 ♂ ad " " ^{slight fat} skull ass., testes 2 mm 40.4

841 ♂ *Otus asio* no fat, testes 2x3 mm — 123.3

842 ♀ imm. *Dendroica nigrescens* no fat, skull not ass. 8.7

843 ? imm. *Spizella pallida* skull not ass. 10.4

844 ♂ imm. *Dendroica townsendi* ^{no fat} skull not ass., minute testes 9.6

845 *Zenaidura macroura* alc. 174.2

846 ♀? imm. *Passerina ciris* moderate fat, skull not ass. 15.5

8 September

847 ♂ ad. *Oporornis tolmiei* fat, skull ass. testes 2 mm 12.4

848 ♀ ad *Piranga ludoviciana* skull ass., slight fat 28.5

849 ? imm. *Passerina ciris* fat, skull not ass. —

Christman, A. M.
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Columba fasciata

14 August Arroyo del Mesteño, 9,000', Sierra del Nido, Chihuahua, Mex.
about ten a.m. while walking back to camp,
from the meadow at the Cabaña, saw one in
a 30 ft. pine - shot it and another flew
from an oak - shot it also. Several others
were flying about the canyon - above the
forest. [there were not catalogued]

both crops empty - will eat these critters

♀ 319.5 gms.; enlarged oviduct, one 14 mm av. others
up to 3 mm., crop empty & not swollen. The belly
was bare, but not thickened.

♂ 302.3 gms. testes 15 mm.

15 August Saw two more pairs in pines & oaks along the
lower part of the northern face of the Arroyo. They
hold pretty tight and are nowhere nearly as
flighty as those dim. families with in California.
Red Johnson brought in two for dinner. One had 13 acorns
3/4 in. long, and the crop showed so called "milk".

Christman, J. M.
1961

Rhynchopsitta pachyrhyncha

20 August Arroyo Mesteño, 9,000 ft., Sierra del Mido, Chihuahua, Mexico
Due to their loud voices this bird is the most obvious in the canyon. Each morning at 6:20 a.m. the two near camp fly off making a racket. They apparently have a nest in a dead section of a "panderosa pine" 100 yds. up the S. wall of the arroyo. The top 10 ft of this 60-70 ft tree is dead & hollow. Broad lateral branches below the snag afford perching sites. They returned off & on all day to the tree, but we did not keep track of them. Usually one sat out side while the other was in side the snag. Two birds flying together was the rule. But several times when on the mesa N. of camp they flew low over the trees in groups up to 10. The raucous calls carry far at least $\frac{3}{4}$ a mile - loud & clear. The precipitous edges of the arroyos seem to be favorite flight routes.

The largest group thus far seen flew down canyon in a loose formation and lit on the edge of the cliff S. of the meadow. There were 31. Almost immediately they became frighty, flew, circled & again tried to alight en masse, but wheeled off - then a turkey vulture soared over the cliff & all flew, plus loud calling. Shortly they flew up canyon together.

Christman, J. L.
1961

2

Rhynchopsitta pschyrhyncha

20 August Arrays Mesteño, 9,000 ft., Sierra del Nido, Chihuahua, Mexico
Their flight is strong, direct with a fairly shallow arc of wing beats, not rapid strokes. The flight is very reminiscent of that of paraguiteros

Christman, G. W.
1961

Scardafella inca

13 Aug. Santa Rita Motel, Chihuahua City, Chih., Mexico
~~abundant about yard & trees here. Two were~~
displaying on lawn - one raised both wings
while the other made a hawking movement.
A nest 10 ft. up in tree in horizontal fork. The
nest was finely packed twig, etc.

Christman, Jhr
1961

Progne sub

18 August Arroyo Mesteño, 9,000 ft., Sierra deluido,
Chihuahua, Mexico

as I was coming down the sloping brush covered hill which divides the 2 canyons (opposite the cabaña) from going over the transect and mesa several martins were seen flying at pine top height. They were with a group of swallows. One martin was shot - a female

19 Aug. Came down the same hillside where the martin was shot. a dark colored martin - ♂? flew by and flew to the top of a pine snag. It entered a hole & noises were heard from the top of the pine. I believe that the ♂ was seeding young in the hole.

Christman, G. W.
1961

~~Tanager~~
Caprimulgus

24 August

Arrays Mesteño, 7,800 ft., Sierra del Rio, Chihuahua, Mexico
Besides the "whip-poor-will" call this bird has a high pitched "quest" (sharp and loud) which we have heard here frequently in the early evening. The moon came up about an hour after dark and we heard both calls near camp. One called from an oak next to the canyon wall 50 ft. from camp. I put the light in the tree and on a 2 or 3 inch branch 20 ft up I got a bright red eye shine. Number 774, shot August 23 was taken about 11 p.m., 25 ft. up in a willow. It too had bright eyeshine among the leaves.

The imm. taken at the upper Mesteño camp (19 Aug. - # 757) was fluttering about under young pines and short "Blue oaks" near camp. It lifted in tree limbs twice. No call.

This afternoon I briefly watched a tawnyish (imm.) whip-poor-will fluttering under some low oaks above camp. It was being mobbed by Steller Jays who made a great noise before the bird settled in the dry leaves under a low oak.

Christman, J. M.

1961

Geococcyx californianus

27 August 1 mi. S., 1/2 mi. E., Santa Clara, Chihuahua, Mexico

6 p.m. cloudy. on very edge of the rolling hills east of camp was under "Blue Oak" 12 ft. high on slope (facing W.). Found a white egg shell under tree - empty, still damp with a little blood and covered with ants. A nest in clump of mistle 7 ft. up on W. side of tree - went up & a large bird flew out to slope 25 ft. away & started running up hill - I shot a ♂ roadrunner (#799). The nest was 2 ft. within the canopy on the side & well protected on all sides except at actual nest level within the tree. The Phorodendron, the same as in Calif., lends a solid support to the nest which was about 10 inches in diameter, 4 inches thick, a 6 inch bowl. Was composed of small sticks, neatly constructed. There were 5 eggs - white, without a smallish end. I brought back to camp one egg: 40×29 mm., embryo total length 38 mm., white, large eyes, tiny buds along pterygiae - cold several hours & no sign of life.

The male had no fat, what appeared to be an active brood-patch; stomach dry compact mass of orthopterans - filled to capacity. Testes not enlarged.

at first I thought this bird was raiding this nest - egg shell & no young in nest - now believe nest is ^{of this} species

Christman, G. M.

1961

Journal

Mexico

9 August Berkeley, Alameda Co., Cal. to El Paso, Texas

We left Berkeley at 7:30 a.m. DLT., to Bakersfield on 99; Mojave & Garstae (about 6 p.m.) into Needles Calif. at 10 p.m. The route was hot and dry all of the way. The Mojave desert is completely dormant, vegetation wise.

10 August Left Needles at 8 a.m. & proceeded down highway 95 to the turn off to Earp and Parker. From about 5 mi. N of this turn off to near

Earp, Calif. the Lawrea and Crotilla were lushly green — no flowering of any plants tho.

From Parker to Hape (highway 72) then to Phoenix, Ariz. at noon. Globe at 3:30 p.m.

From San Carlos to Lordsburg (N. Mex) the vegetation was green & fully leafed out, but no flowering. Along this route (highway 70) huge walls of thunderheads over mountains to N. & S. Evidence of recent rain. Lordsburg at about 6:30 p.m. — the town was wet from a recent heavy rain.

Twenty miles (by speedometer) west of Demcan — on the broad flat plains we * saw half a dozen groups of Sack Buntings near to the high way. ~~Each~~ groups varied from 8 to 15 birds & flew 20 or so yards off the road at an approach.

Arrived at Ralph Raitt's home in (Dick Banks) Las Cruces at 10:45 p.m. meet Jim Anderson ^{visiting}.

1961

Journal

- August 11 El Paso, Texas & Juarez, Mexico a long series of almost comic opera situations at the border, so last the day but gained a pleasant evening in the Club S. Luis.
- August 12 Juarez, Chihuahua, Mexico, after visiting the the Mexican consulate in El Paso, we again tilted the wagers of the Aduanda, etc. and at last —
 5:15 p.m. left Juarez (several brief showers after 5:00 p.m. — not heavy). The broad river valley was lush with alfalfa, corn and many cottonwoods then over a slight elevation and across a broad plain. At Juarez the mileage was 67374; the first Aduanda 390, Smalayuca 403, Candelaria 419, Rancheria 429, Lugero 436, Juan Jose 442, Villa Ahumada 449; Gallego for Aduanda & gas 498. Picked up a Crotalus, Amphispiza & a roser along the road — see Anderson. About 11:00 p.m. we arrived at the Santa Rita Motel, [Park at Gallego] C. Chih.
- August 13 Ciudad Chihuahua. Luca Doves were cooing and found one nest. Ran various chores in town, plus visiting Mr. James S. Baldwin (Calle 14, #1005, C. Chihuahua, Chih.) — (will use his address for our mail) — an interesting old gentleman, his wife & son Andy. Name middle class N. American. Left C. Chihuahua at 11:45 a.m. — mileage 587 and headed N. on Highway 45. At 602 Jim Anderson saw a collard lizard. At 621 a D.O.R. Mastocopus flagellum.
 * 623 a flock of Lark Bunting. At 633 with a huge precipitous mastiff behind hills near to the road we saw at least 50 ravens circling high.

August 13

Chihuahua to Arroyo Mesteno, Chihuahua, Mexico

Ravens were seen quite frequently along the highway. There seems to be several sizes, but this is open to question. We had the impression that the largest one is more abundant. I was impressed by how green the desert is - almost lush. Will have to study the area about La Parrita - this is a restaurant (!) (637) - from where the road up to Cañon de Santa Clara takes off. Barn swallows were abundant about this place - evidently they were breeding for youngish appearing birds were present. The road was dirt and not bad considering. We stopped for lunch at the old camp site known as "5 mi. N. Ceno Campaña". One pond of muddy water - cattle were at the camp site under the "Ash trees". The "^{mule}~~mule~~ fat" was lush. Collected 2 sp. of snakes in the water & Hyla crepitans. Cliff Swallow nests on the cliff beside the camp site. We continued up this magnificent canyon, past the tiny village of Primavera. At 650 we saw a Mexican Quail sitting on a rock 10 yds ± off the road in a rock pile, under oaks. It was collected - and another, hidden from view flew off from the same pile of rocks. It was rather strange seeing this bird hold a hen a car drove up, arms & guns flew out & much talking. Near this spot saw the first madroño tree. The canyon is narrow here and the walls verticle in many areas. Then at 654 we went over the crest of the drainage with a view of the Rio Santa Clara valley & the Sierra Madre to the W.

Journal

August 13

Cañon Santa Clara to Arroyo Mesteño, Sierra del Nido,
Chihuahua, Mexico. We were immediately on a gently
dissected plain sloping to the west - The cover was
rocky, covered by scrubby oaks, now & again
dotted by pines and mature oaks. Ned Johnson, Jim
Anderson & I watched a golden eagle sailing
off to the east, a good ~~the~~ sight identification.
collected several snakes & a chipmunk, plus a
Citellus spitosoma in an area of short grass &
forbs. We then got out onto the extensive llano
which is flat except for the shallow canyons
from the hills. at 659 Ned heard & saw a western
meadowlark singing. We came down a broad
shallow canyon studded with large oaks -
then out onto the flats of fine soil in forbs which
looked like an abandoned field. To the north
several hundred yards was a fence line behind
which was a dense stand of short oaks with
a few larger ones and a few junipers. At the first N-S
road we turned N. (we are almost surrounded
by Mesquite fields). Continuing N. we crossed
another shallow canyon (alamo?); fenced
area to E. behind which was more scrubby oaks.
Then into more fields - A Mesquite "Campo" is
one mile to the W. Then a W-E dirt road, turned W
& passed many farm buildings with light haired
people & many children - many in buggies, ^{or} horse-
drawn or pickup. Got gas at a small Mexican

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Journal

21.

August 13

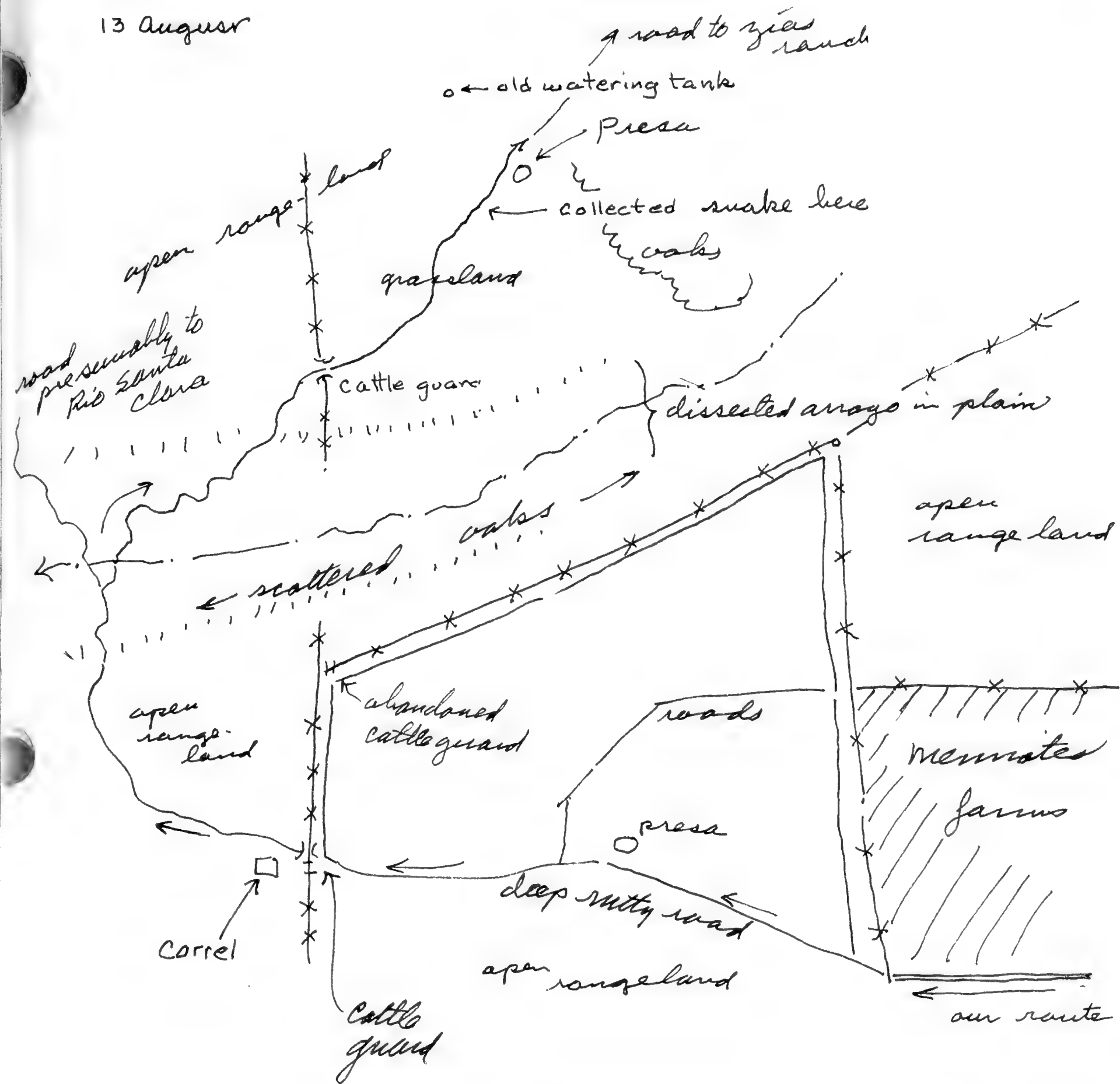
into Arroyo Mesteño, Sierra del Nido, Chihuahua, Mexico
filling station. There are numerous round
depressions in this area, most with water. These
do not appear to be artificial. ~~about~~ we followed the
aerial photos and Anderson's memory and after 45 minutes
of trying to cut corners we finally hit the correct road.
We crossed a grassy plain then down a shallow
river valley (Mesteño - ^{yes!}?) with mang oaks on the south
side then up the other side & across more grassy rolling
plains with oak woodland hills around & in front of us.
From this spot to the fence line & Zea's property and
cattle guard we passed thru oak woodland with both
good sized trees & scrubby undergrowth. A few pines
were present. The area shows extensive cutting.
Went to Zea's ranch and talked to the foreman who
gave us "permiso" to camp here. We started a trace
for the Mesteño, backtracking to the cattle guard
and followed the fence line over a rolling upland
then abruptly dropped into a deep canyon
and headed up it over the stream beds - fortunately
most of the stream was dry ^{hardly with water} as shallow pools.
The canyon became deeper and we arrived at
a large meadow at darkness. After much
searching we found last year's camp site
and in time got the trucks up & threw out
our sleeping bags - rained during the night.
The stream by camp is dry except for small
shallow pools.

Christman, S.M.
1961

Journal

22.

13 August



This is the most difficult portion of the entire search for the Arroyo Mestizo and Sr. Zia's ranch.

Christman, G. W.
1961

23.

Journal

9,000 ft.

14 August Arroyo de Mesteño, Chihuahua, Mexico (Sierra del Rio)

Awaked just at dawn by two parrots flying over. After breakfast, about 7:30 a.m. I slowly walked down canyon from camp. Mexican Jays, pygmy nuthatches and Mexican chickadees were abundant in the young pines and oaks in the canyon bottom.

In this area collected a Rufous-sided Towhee in the lower limbs of a pine. Then went up the south sloping wall of the canyon (facing the N) where hummingbirds were abundant about the blossoming flowers. Shot an imm. Mexican Junco on a pine log - they too were fairly abundant. Then a [hoar] woodpecker was shot 3 ft. up in a 5 ft. seedling pine - the only sound it made was hammering. Black-eared Bush-tits in a flock went thru ^{trees on side of} ~~valley~~ hill.

Shot a Crotalus molossus which was coiled under the overhanging boughs of a seedling pine - exposed, dry pine nettles. Was 8 ft. away & it did not move, even after a 22 shot shell. Then down to meadow where the canyons join, opposite the cabaña. Saw what looked to be an adult male Hermit warbler - missed it. Shot a Cores' Flycatcher from 10 ft + up in a pine near outside of canopy. Also an Empidonax fulvifrons from a group of 3 willows in the meadow - also I missed a yellowish warbler & shot another yellowish warbler. This spot has command of all three canyons (the main & 2 forks) from here saw a half dozen Turkey Vultures and

Journal

- August 14 Arroyo Mesteño, 9,000 ft., Sierra del Nido, Chihuahua, Mexico
several more parrots. Saw two falcons on the edge of the canyon cliff to the south - appeared to be prairie falcons, but by no means positive - one called several times. several bluebirds, many flickers and painted redstarts observed here & up our fork. On the return trip shot a Sceloporus and two Bandtailed pigeons. The mid part of day was spent in camp. No mammals were seen. Parrots frequently flying up and down canyon. Several sprinkles in the afternoon? Just before dark I ~~was~~ shot a Eptesicus f. in an opening near to camp - it was flying very high & got it by leading & #9 shot. About 8:30 p.m. began raining hard. During dinner at 7:30 p.m. the creek suddenly started flowing. This is significant for the headwaters of the canyon is extensive and thunderstorms occurred all afternoon to the N, E & SE.
- August 15 we had a violent rain storm during the night - flooded out the skinning tent. We all slept wet. At 7:30 a.m. went down canyon - 3/4 mi. below cabana, then back to cabana, it cleared & I slowly hunted one mile up the north fork of the Arroyo. Whipping (?) sparrow feeding young on edge of N. slope. Brown towhees are abundant in the meadow; only one pair of Rufous-sided towhees - at meadow. Red-faced warblers & painted ^{Redstarts} were abundant. Ran into a fork

Christman, S. W.
1961

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Journal

15 August Arroyo Mesteño, 9,000 ft., Sierra del Nido, Chihuahua, Mexico.
of white breasted Nuthatches. The pippings were not
in evidence this a.m. Mexican Juncos abundant, as
were flickers. A fair number of flycatchers, but
hard to approach. Saw one ash-throated type and
near meadow one Buff-breasted. Missed one
Black-headed Grosbeak. While walking up
the north fork Mexican Jays preceded me
making noise as did the Stellar Jays which were
 $\frac{1}{2}$ the numbers as the Mexican Jays. Shot a rock
squirrel - gave it to Wild Bill. Saw 2 white-
throated Swifts flying over the meadow.

about 9 a.m. when it was still ^{somewhat} cloudy and wet a
Turkey Vulture flew low over the rocky slope
just down canyon from the cabaña. It lit on
a pile of rocks, peered about and then spread its
wings and tail to the sun which was just coming
from behind the clouds. It was thus occupied
for at least ten minutes. Just at dusk when
we were cooking a large hawk flew thru
the pines directly over our camp. I got a good
look at it & it looked exactly like the Goshawk
that Ned put up this afternoon. Also, just before
this we saw swallows flying high over the
canyon walls S. of camp. They looked like
violet-greens.

Clouded over about 7:30 p.m., commenced a general rain
about 8:30 or 9 p.m. - another cold wet night.

Christman, G M
1961

26

Journal

August 16

Arroyo mesteno, Sierra del Nido, Chihuahua, Mexico Left camp about 8 a.m. and headed up the south fork of this drainage. Several hundred yards up (to NE) the canyon narrows down from the 50 yds here at camp to about 10-15 yds, some 10 feet. The walls of the canyon are steeper, particularly the S. Oaks, pine, ~~aspen~~ ^{aspen} & a few Pseudotsuga are found here in a damp situation. Willows form a thin discontinuous band along the stream cobbles. This stream has much black silt and bits of charcoal. It is only a series of pools now. The stream splits and the N fork enters a long dry meadow almost due north (the E fork into a canyon). The hill sides are almost completely bare of trees. There are extensive ruins of a sawmill in this flat. Collected samples of the forbs which cover the flats — a yellow composite was the most abundant; grass was not significant tho several types were present (2 bunchgrasses). Several hundred yards N up the flat one enters a broad rolling area. A cliff of rocks to the west, a canyon to the N, a broad rolling hillside to the SE where another wall is formed. Thus the stream branches and again — I followed up the right or E branch ~~southward~~ or least a mile, perhaps more. I was in hopes of gaining the crest but was not there by 12:30 p.m. So started back via the same route. Clouds started moving in about 1 p.m. but no thunder. The crest was about one mile further up the middle of the 3 branches — I shall refer to the area above the

Christman, J. M.
1961

Journal

16 Aug. Arroyo Mestizo, Sierra del Huco, Chihuahua, Mexico

N93/3



Both Sawmill flat above camp, $\pm 9,500$ ft.; to SW back down canyon toward camp, from lower end of flat

N93/4



to NE from lower end of flat, dry meadow. Note the few pines on lower slopes - this area was logged while the inaccessible ridges, etc. were now. Good representation.

Christman, G. M.
1961

Journal

16 Aug. Arroyo Mesteño, Sierra del Indio, Chihuahua, Mexico

N93/6



Both Sawmill flat, above camp, 9,500 ft., to NE from site of old saw mill.

N93/5



Edge of flat & base of hill to E. of Sawmill flat.

Christman, G. M.
1961

Journal

16 Aug. Arroyo Mestero, Sierra del Mido, Chihuahua, Mex.

N93/7



N. end of Sawmill Flat, 9,500 ft., on gently sloping
S slope. Regrow with Quercus depressa after fire, note
dense growth among burnt limbs.

Estuan, A. M.
1961

Journal

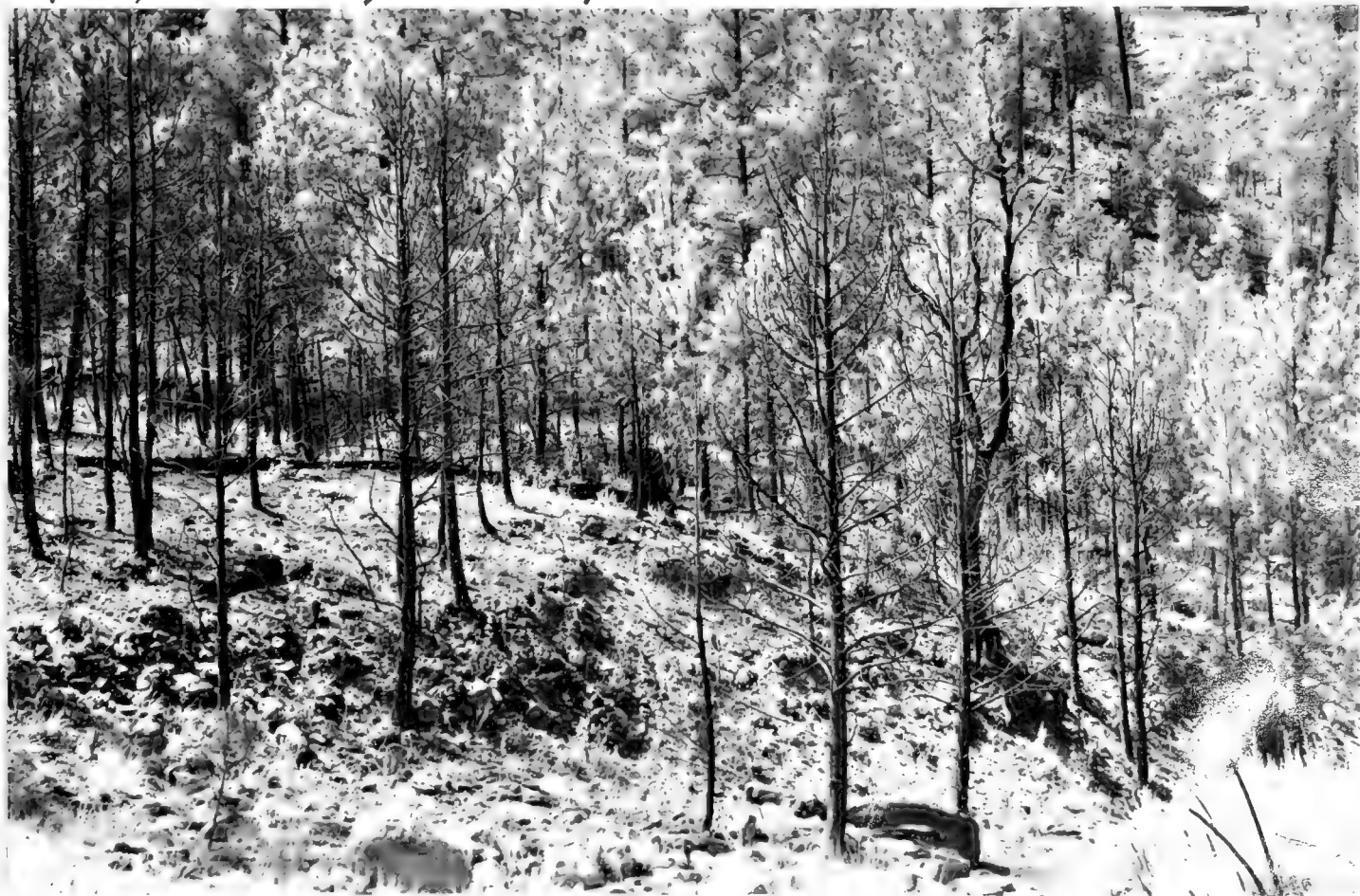
16 Aug. Arroyo Mesteño, Sierra del Tido, Chihuahua, Mexico
above Sawmill flat, 9,700 ft.

N93/15



Plantations of young pines burnt or killed by the
fire, note sparse ground cover

N93/8



Quistman, G. M.
1961

Journal

16 August Arroyo Mestizo, Sierra del Tido, Chihuahua
Headwaters, elevation probably 10,000 ft.

N93/10



to SW, w exposure

N93/12



SW facing, exposed slope, to W near high fork. Note dead
young pines

Christman, G. W.
1961

Journal

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August 16 Arroyo Mestizo, Sierra del Nido, Chihuahua, Mexico
"Sawmill flat" as the headwaters. The entire area
traversed to day, except for the area about camp has
been burned since last year. Everywhere the
diff was completely burnt down to the mineral soil,
fallen logs were burnt, and stumps were burnt out
leaving holes where the roots had been. In no
place that I have seen thus far did the fire come out.
Trunks were scorched & lower limbs burnt - the
entire area is studded by orange-red leaves of
pines ^{scorched} ~~burnt~~, but not burnt. In several places
dense stands of seedling pines were entirely
consumed except for the trunks - these places
were mainly S. of the stream beds extending up the
hill. From Sawmill flat up most of the cover on
the exposed slopes were covered by burnt oak
and scrub which had sprouted out into solid
carpets 2 ft. high of regrowth oak - a few burnt
areas of the flat had "Pinus" ~~sprouting~~. The
several manzanita I saw were dead with
no sprouting. In general all the oaks
which were scorched or burnt had stump
sprouting. The old lumbering operations (date
unknown) left stumps and fallen logs over an
extensive area - the places accessible to the road
up this canyon & slopes about the flat. The higher
elevations & crests of hills have good stands
of pines. Remnants of the lumber road extend

Christman, D.M.
1961

28.

Journal

August 16 Arroyo Mesteno, Sierra deluido, Chihuahua, Mexico
~~minimum minimum minimum minimum~~
well beyond the flat & up the fork I took almost as far
I went; the goodsize saplings & jumpers are growing
in the "center". From somewhere between camp and
the flat the oaks - as trees - disappear & form no
part in the community of conifers above the flat - except
as individual trees along the streams. They do not
form a riparian community - just spottily distributed.
The pines are confusing here. Most of the cones were
burnt and only a few of several species had cones.
Needless to say, it was difficult to collect sprays
of needles. It appears that the majority of trees are
of the ponderosa type.

One Rock Squirrel seen $\frac{1}{2}$ mi. above flat. Collected
one chipmunk in higher area - Liddakes is putting it
up. A white-tailed deer (♀) was seen on flat west of
the sawmill area at a distance of 300 yds - it
slowly walked up to the flat above the edge of the
cliff area. The tail was elevated and was obvious
thru the glasses. In the higher area hairy woodpeckers,
flickers, black and blue birds & pygmy nuthatches
were noted. Near the sawmill: a good view of a
golden eagle, 2 Merriam's quail and Rufous-sided towhees.
Got another look at the Goshawk. ~~Peewee~~ & a
Myiarchus were seen, as were juncos. Found houses
of three cows along the stream - all widely
separated from one another. Back at camp at 4:30.
Shot at bats - no one collected.

Christman, S. M.
1961

Journal

29.

August 17

Arroyo Mestero, 9,000 ft., Sierra del Nido, Chihuahua, Mexico
Cloudy early in the morning — after a rain last night (after midnight). Worked on my plants collected yesterday until a wind came up & clouds lowered. Got gun & went down to meadow anticipating a war after noon. Saw a dozen warblers — got three. Saw a Stellar's Jay immitate a red-tailed hawk. It rained intermittently from 1 p.m. until sack time after in downpours — the stream again suddenly flooded —

August 18

7:30 a.m. walked down canyon, above the meadow and a little way up the north fork. The bluebirds remain in the meadow almost exclusively; above the edges in oaks & pines are: ^(Rufous-sided) spotted & brown towhees, Chipping sparrows, Juncos and Buff-breasted Flycatchers (collected 2 fledglings that were perched 10 ft. up in a small "blue oak"). Shot a brown towhee out of a group of three — the individuals here seem to take to trees more readily than those in Berkeley & are often 30 ft up in pines tho usually under 20 ft. No sign of bats in the old cabin in the meadow. Got a "Chupimoko" for Bill, also a sceloporus. Fresh deer sign — since last night at a muddy pool near the old cabin. Heard two owl call, each in a separate canyon up the north fork from Za's Cabana. Bird activity this a.m. is poor — they are quiet and not as active as usual. The a.m. was cloudy & the vegetation is still pretty wet at 10:30 a.m.

probably pigeons and

Christman, G. M.
1961

Journal

30.

August 18 Arroyo Mestizo, 9,000 ft., Sierra deluido, Chihuahua, Mexico #1, p. 33
about 11:30 a.m. I started a transect of the north slope above camp. The hillside is steep and varies greatly in density of trees up and down canyon. I gained the ridge about 12:30 p.m. This plateau is about 100 yds. wide here - being between the two canyons. It slopes to the W. From here I can look over much country - the entire area seems to slope to the west with plateaus and hills showing this trend. ~~Vertical~~ Strata of resistant rock form vertical cliffs with cracks in a vertical fashion.
On this ridge the substrate is a coarse gravel with medium sized sharp edged rocks and outcrops of boulders greatly fractured, the only up to 3 ft. high - and being very sparsely distributed.
The dominant tree is Pinus Cembroides - a piñon. The ~~smaller~~ trees are usually scrubby but many are large and branch broadly. Next in abundance is the "blue oak" which is a small scrubby tree rarely over 15 ft. high - definitely under story to the pines - even the larger P. Cembroides. The bark of this oak is white and checked into deep rectangles. The seedlings of the oak are plentiful, as are all the other trees here. Many forbs are present, but much ^{ground} grass covers 50% of the cover - it is receding from the fire that swept this area. Few grass heads are present. The only trees to burn are those dead individuals and the logs - no sawed stumps.

Christman, J. W.
1961

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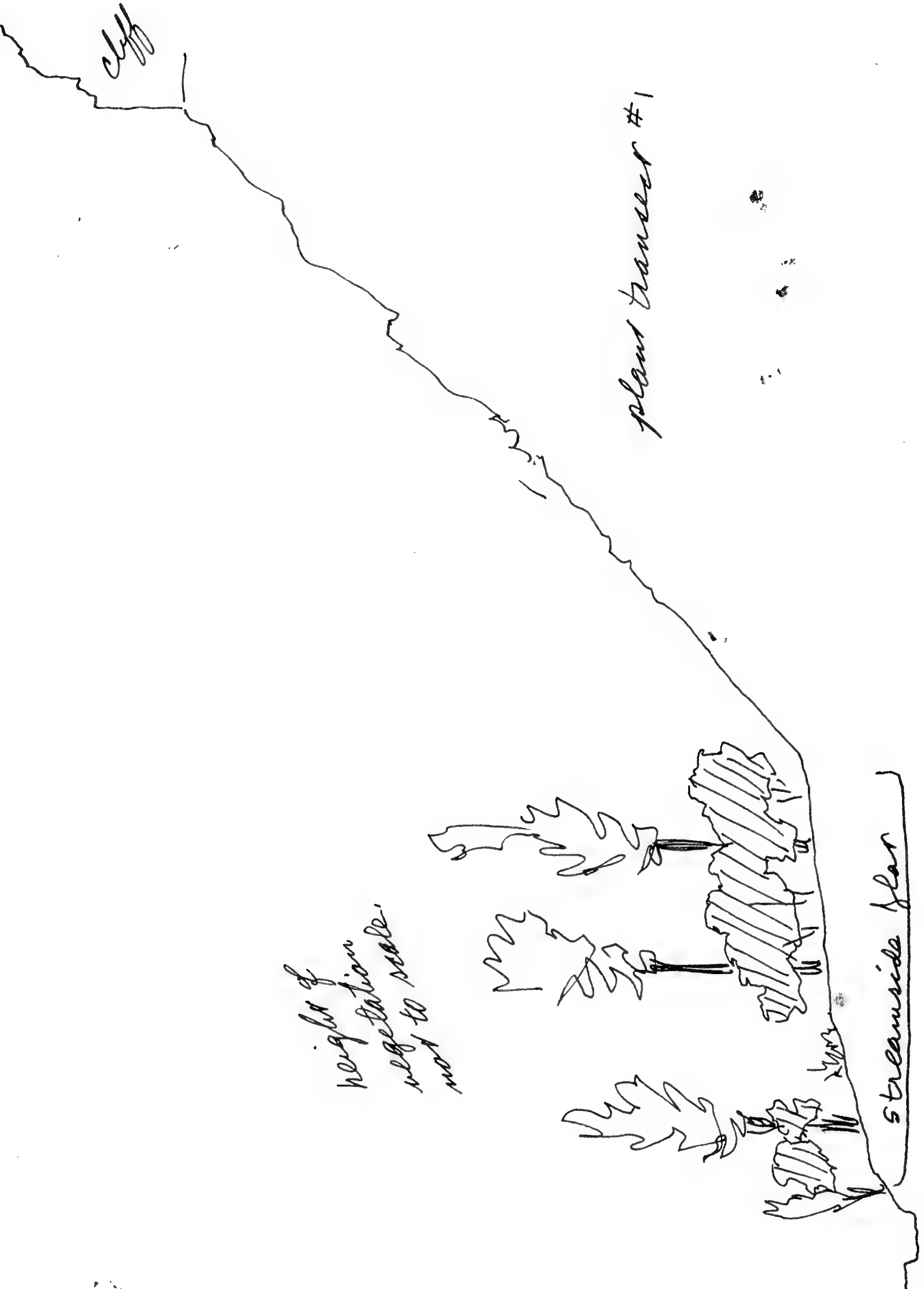
Journal

August 18

Arrazo Moreno, 9,000 ft., Sierra deluido, Chihuahua, Mexico
alligator juniper and several other oaks are also present in reduced numbers. a second species of pine is the short leaved - small coned one. They vary in age classes, some are very tall — shot an alive warbler in one of these pines. I continued down the ridge to the west. Here the slope pitches down to the large meadow and is in an exposed situation. The oaks drop down in abundance & large pines (P. arizonica) take over. A mat of low shrubs (18") form an under story. Also, a Arbutus appearing tree appears (~~as a tree~~ ^{4-6 ft high}). From this vantage point I shot a purple martin.

Found a pine that looks like the Ponderosa, ~~except~~ the cones are very small. In several ~~spots~~ ^{spots} under these trees the fallen cones (fresh) had been gnawed — tree squirrels? P. arizonica

Came into Camp to find Sr. Urbano Zea, his son (recently of New Mexico State, Las Cruces), Don Juan Abrar, a Mennito, Don Santos (Florintina's father & ranch foreman) and a cowboy. Zea speaks excellent English and has a fine sense of humor. He said that the fire burned thru this area last May. And that the sawmill up canyon was in operation "about 30 years ago" before he bought the ranch. Bears have killed 16 head of cattle so far this year, including 2 registered bulls. They are all Angus. a Black Bear was killed near this camp this past year. The Grizzly



height of
vegetation
not to scale.

plant transect #1

streamside floor

//// = cals

Christman, G.M.
1961

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Journal

18 August

Arroyo Mestizo, 9,000 ft., Sierra deluido, Chihuahua, Mexico
are the cow killers and this year are to the north
(and perhaps lower in elevation). We showed
him the aerial photos of the area, including his
ranch and he was impressed, and asked if we
could have them copied for him.

While we were talking an Eared Trogon came thru
camp. First, we heard a high girthing series of
notes. Peter Jordan said Green-back goldfinch -
I walked around the trucks and saw a ♀ at
20 yds. on a dead limb of an oak 10 ft. up over
the stream E. of camp. It immediately flew -
the wing beats were fast, but I got the impression of
a huge dark tail with the outer tail feathers marked
with white. It flew down canyon. It gave a call
which I could not describe - other than it is
complex & different from anything I have ever heard.
This was the first night that it did not rain.

19 August. Collected below camp in a.m. In early p.m. started up the
canyon wall to the N. of camp. The variation in cover
on this slope is great. To the E. some slopes are almost
devoid of oaks. Down canyon near the meadow
large pines work up the slope, but are not dense
at the 'jark' area. The "Blue Oak" in places, even
under the pines, form almost a complete cover of
small gnarled trees. But they too vary and are not
abundant further up the canyon. P. cembraides is not
abundant on these slopes, nor near the streams.

Journal

19 August

The north slope of the mesa - was burnt recently and was not examined closely. Near the top the dominant trees were pines with oaks being more minor - and diversified. The large holly-leaved oaks were present here.

Eastman, G. H.
1961

Journal

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19 August Arroyo Mesteno, 9,000 ft., Sierra del Nido, Chihuahua, Mexico
The mesa N. of camp is a savanna of short "blue oaks" almost as many Pinus cembroides*, with minor amounts of other oaks and pines, especially areas adjacent to the canyon to the N. There is not as abrupt a drop off on N. as the S. Two species of Juniper play a minor role. Seedlings of all species except the Junipers are present. Three pines, besides the above are present: a ponderosa-like one, a 3 needle-small persistent coned one and a large tree, bark similar to ponderosa with large deciduous cones, and 5 long needles. An oak, called here "Hally-leaved Oak" is present in small numbers, is a sprouter. A bunch grass is present.

P. chihuahuana

P. engelmanni?

Q. hypoleucoides

Birds seen: Rufous-sided towhee, Chickadee, Bridled Chickadee (yesterday), hairy & Arizona woodpecker, 1 stellar jay, several "bluebirds", Black-headed Grosbeak, slender-billed nuthatches, Band-tailed pigeons, and Thick-billed Parrots, Turkey Vulture - the chickadee is the most abundant. Olive warbler, collected yesterday.

* This contradicts a previous statement - the ~~oaks~~ ^{oaks} dominates on the sites of better soil & more grass while the pine is more numerous in rockier sites - the pine does dominate in the sense of height and general size. At best the oaks of small trees.

19 August

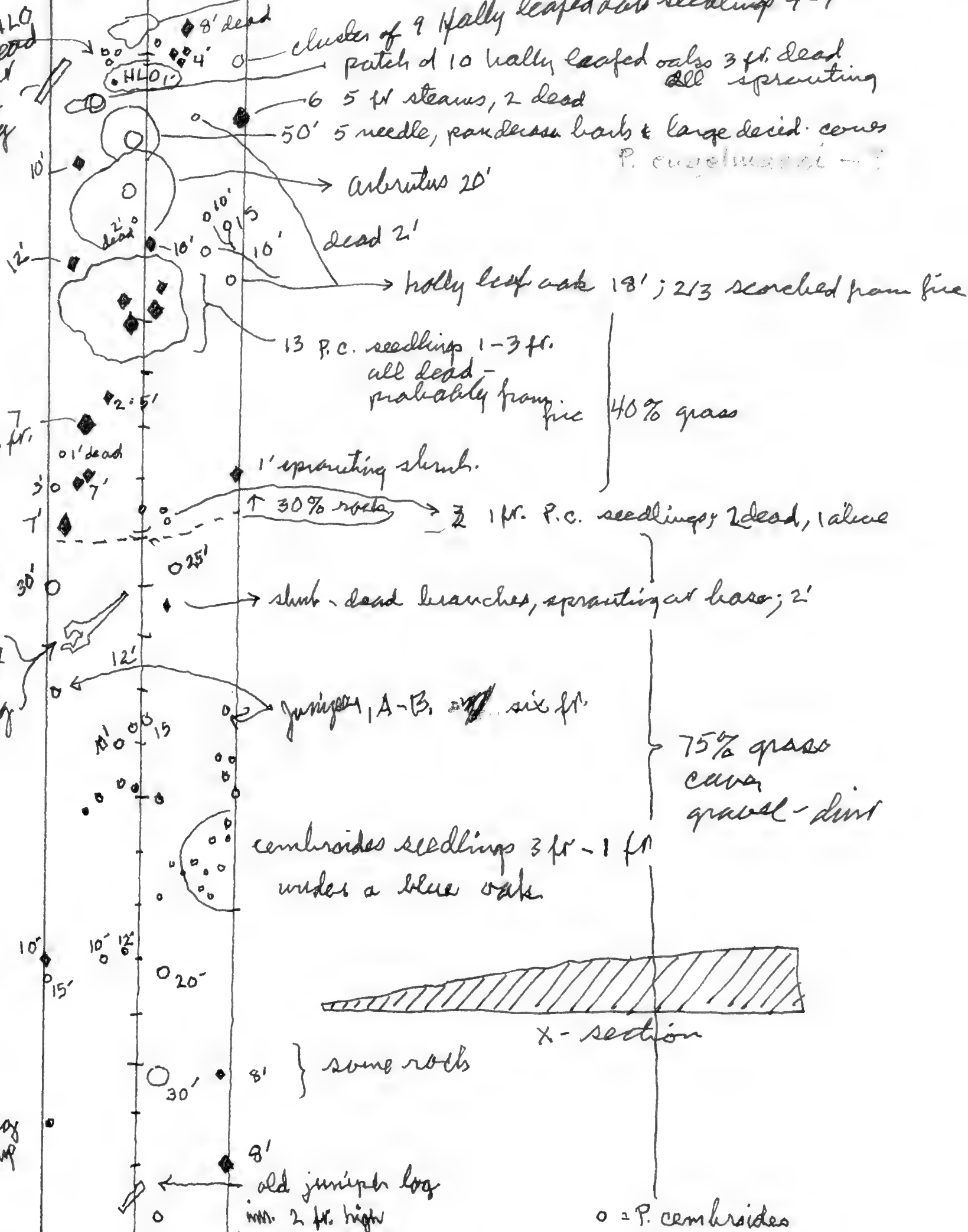
Araya Mesteño, 9,500 ft., Sierra del Nido, Chihuahua, Mexico

Mesa NE of Camp: substrate dirt - gravel

all holly - leaf oak dead, tho sprouting
mat like, oak like shrubs & seedlings 4" to 3 ft.
mat of 8" seedling oaks

N →

3 3' HLO
burnt
pine
log



Christman, J. M.
1961

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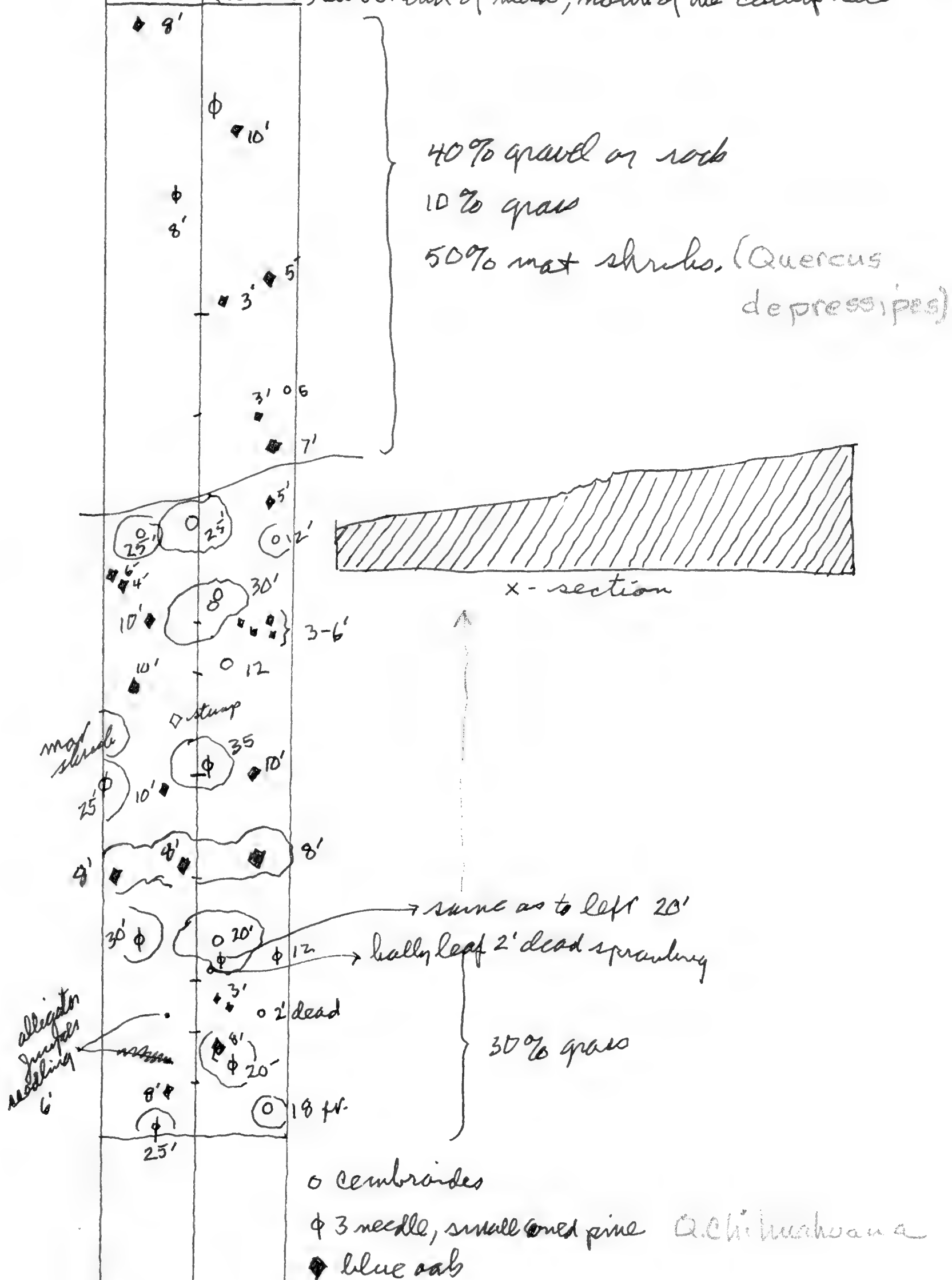
Journal

plant transect #3

19 August

Arroyo Mesteño 9,500 ft. Sierra del Rio, Chihuahua, Mexico

(west) Lower end of mesa, north of the camp site



Christman, G. M.
1961

Journal

Arroyo Mesteño, 9,500 ft., Sierra del Nido, Chihuahua, Mex.

N94/32



Mesa, transect #3 area to S.

N94/30



Mesa, transect #2

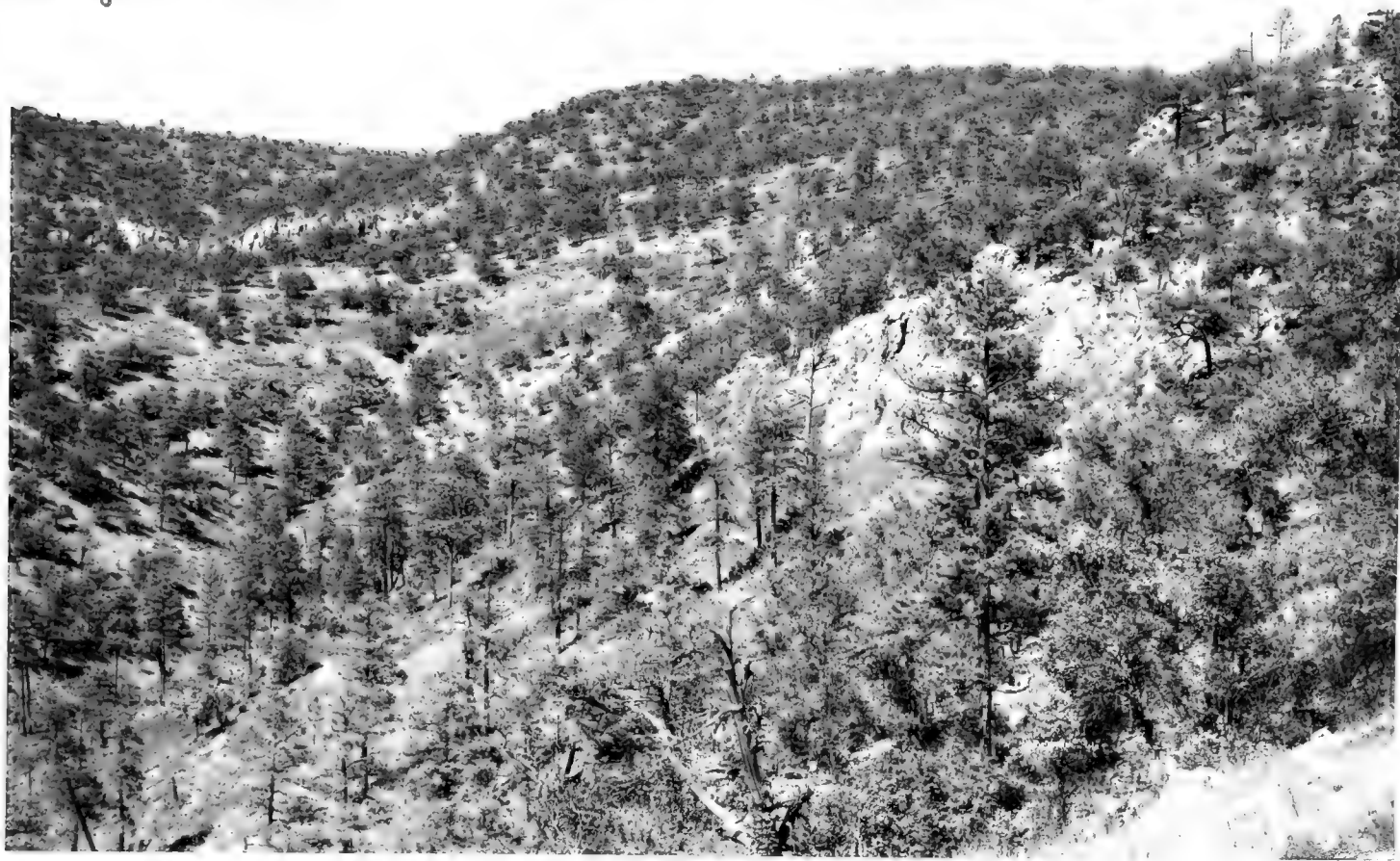
Christman, G. M.

1961

Journal

Arroyo Mesteño, 9,500 ft., Sierra del Pido, Chihuahua, Mex.

N94/24



N. edge of mesa, near transect #3, to NE; slopes of SE pair of lower N. branch of Mesteño.

N94/31



to N. from ridge between canyons, showing brush & open pine-oak forest on this W. facing slope and the mesa to N.

Christman, G. M.
1961

Journal

Arroyo Mesteño, 9,500 ft., Sierra del Nido, Chihuahua, Mex.

N94 / 21



View to w. down Arroyo Mesteño, over meadow from ridge between the two branch canyons.

Christman, G. M.
1961

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Journal

20 August Arroyo Mesteño, 9,000 ft., Sierra del Nido, Chihuahua, Mex.
Cloudy and overcast early in the morning. Went down to the meadow. Collected one of two curved bill thrashers. Saw a half dozen Townsend warblers & got one by mistake. Noticed that Painted Redstarts often follow pygmy nuthatches while the latter are foraging in an unorganized manner in a dozen trees. Saw a ♂ Olive Warbler foraging in a Pinus chilhuahuana (?) 30 ft. + up. Collected it; then saw a female in same species at pine 15 ft up in dense foliage - collected her also. This species differs from other warblers for they are not as active in flitting about and tend to slowly glean and clamp off pine needles after another - not flying from branch to branch & tree to tree as the migrants are doing. The one collected on the mesa N. of camp acted the same way. One has to see them among the needles not by any overt movements or song on their part. I have not heard them give any notes. The pines these birds were in are next to the meadow on the S. side (& slope). A few sprinkles in a.m. In afternoon the clouds broke awhile & I went out to photograph the meadow, etc. Ravens are perhaps more abundant than I first suspected. They stick pretty close to the woods. On way back from the meadow this a.m. I shot a black Phoebe 50 yds. W. of camp - it was sitting on a rock in the middle of the stream. This is

Christman, J. M.
1961

Journal

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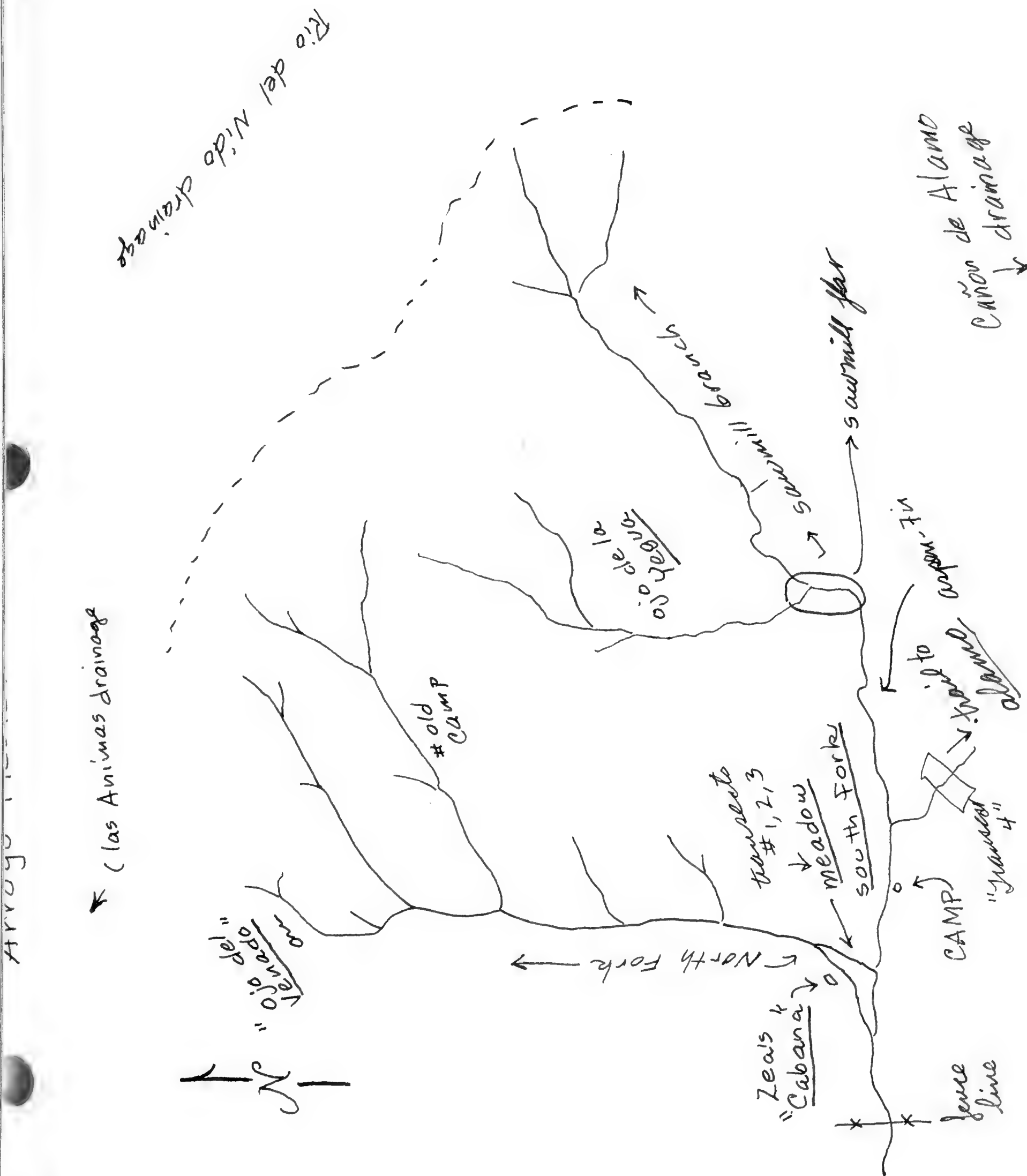
- 20 August Arroyo Mesteño, 9,000 ft. Sierra deluido, Chihuahua, Mexico
probably the same individual that escaped me
this a.m. early E. of camp and in the meadow several
days ago. About three it started raining again
so came back to camp on the way I shot a
- * white-eared Hummer in a dry open glade with
many jacks - it fed at them (white flowers)
between perches on lower limbs of young seedling
pines. After going 100 ft. toward camp I heard a
- * call note completely unfamiliar to me - from a
group of young pale pines. It was a soft high
pitched trill or series of notes with no accent or
variation. On approaching a small ramdsh
bird flew to a large pine & lit on a 6" branch
³⁵~~25~~ ft. up & 3 ft. from trunk in a very exposed
situation. I missed at 30 yds + with #6. It flew
30 ft. to a group of pale pines - I walked under
these trees for 5 minutes before the call was heard
again. The bird was recognized as a pygmy owl
& it did not respond to my imitations to the usual
(for this locality) call note nor this trill. It was
seen high in a pine on a 1" branch 6 ft. from the
edge of the canopy - again exposed. It was
taken with a leaf load. Rain continued.
- while sitting here in camp Anderson & I heard a pygmy
owl down canyon - we followed - it was rather
reticent, but answered well when we were close to
it. We couldn't gauge its distance tho we could

Christman, G. M.
1961

August

Sketch map (from Aerial Photos)
for place names, etc

40.



Christman, G. W.
1961

Journal

41

- 20 August Arroyo Asteño, 9,000 ft., Sierra del Nido, Chihuahua, Mexico
direction. We got close & it flew into an ash & I fired
a .38 - it flew off low - we searched but couldn't
find it. Its call was a whistle cut very short &
explosive on each note. The series of up to 10 or 15 notes
grew stranger on the final notes.
- 21 August It has been difficult to decide which north facing
pine slopes are typical enough to describe - for
there is a vast amount of variation. In the most
shaded areas where the canyon walls are close together
and very humid Pseudotsuga comes in. In hotter
exposed & shaded north ^{facing} slopes which are well
drained, as talus, or not exclusively, aspen is
prominent. Many slopes are very open with
the pine type exclusively, but this blends to
a closed canopy also. Lumbering has certainly
effected the pine. As an example of a pine
forest I went up a side canyon (S.) up
from camp. At the bottom of the canyon the "Leather
leaf oak" in a riparian situation (dry rocky stream bed)
and is prominent on the lower slopes of the N. facing
canyon slopes; many seedlings are present. This oak
has ~~the~~ whitish bark. A pine with ponderosa
type bark is prominent on the most exposed
slopes of the N facing slope in the upper reaches of
the canyon. No "blue oak."

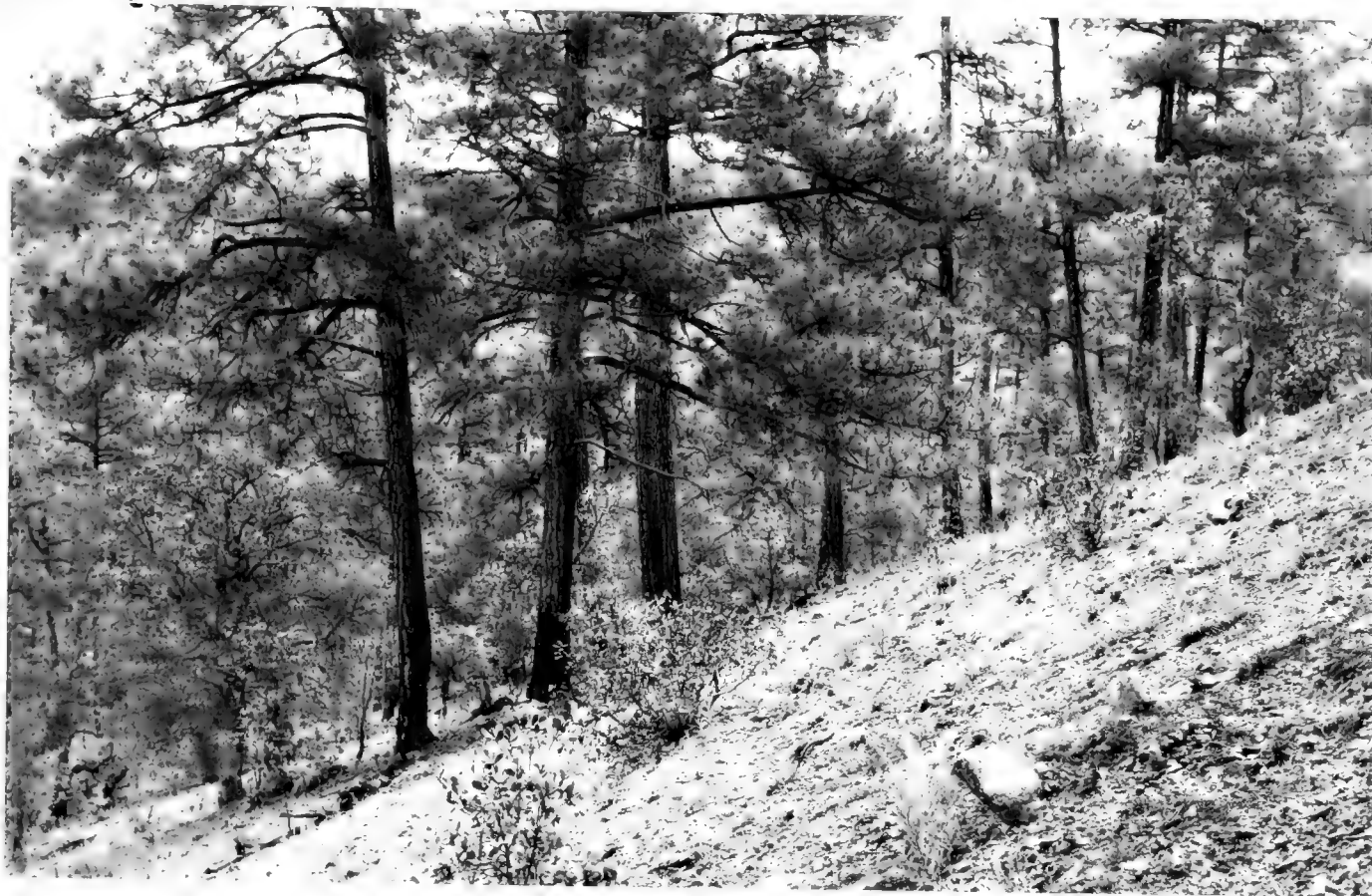
Christman, G. M.
1961

41a.

Journal

21 August Arroyo Mesteño, 9,500 ft, Sierra del Pico, Chihuahua, Mex.

N96/2



Both photos: Side canyon S~~W~~E of camp, (about 3/4 mi. SE) to S; NE exposure. Fire had burned thru area, and the oak seedlings evident in foreground are dead.

N96/3



Christman, S. D.
1961

Journal

43

21 August Lower Mesteño, 7,800 ft., Sierra del Nido, Chihuahua, Mexico
We left our upper Mesteño camp about 2:30 p.m. and went down the canyon to Geo's fence line in a meadow and then went thru a wire fence gate & continued $\frac{1}{2}$ a mile to our new camp. The site is a walled canyon 60-100 ft. deep, and about as wide. The vegetation is dense. In an hour we had set up camp and at 4:30 p.m. we went out to look around. This camp is seven miles by speedometer from our other camp.
This site is promising. Pete ran to the stream immediately after we first arrived and saw a lizard - Jim & others ran to a log across the stream & turned up a Serronetus. I set out up canyon & went 50 yds, ~~and~~ there was a Spotted Owl 20 ft. up in a willow, near to the stream. It was on a diagonal large limb, peering at me. Walked on up the canyon to a large meadow which is lush. Birds seen: Red-shafted Flicker, Painted Redstart, Acorn Woodpecker, Buff-breasted Flycatcher, Canyon Wren, many Band-tailed Pigeons, Pewees, Pileolated warbler, Mexican Junco, Stellar Jay & Mexican Jay. A group of about 75 night hawks were seen circling high over the ridge to the SE. The group slowly moved up canyon. I got good looks at the birds - the white spot was about $\frac{1}{2}$ the length of the primaries. Collected a Buff-breasted Flycatcher & a Townsend warbler. The canyon is very active with bird life. Shot at bats in the dusk - got an Eptesicus which I gave to Bill.

Christman, G. M.
1961

44

Journal

21 August Arrago Mesteño, 7,800 ft., Sierra del Nido, Chihuahua, Mexico
while skinning at 11:45 p.m. Jim came in from hunting for frogs and said that possums were in the road above camp. I went out at 75 yds. from camp & could not hear any in the vicinity so shone the flash light about. Heard a slight noise on the opposite canyon wall - flashed the light & saw 2 large green eyes - and the body of a large cat. Replaced .38 with a slug while keeping the light on the cat. It jumped upon a rock, up hill and looked back thru branches of an oak when I fired. Ned came down the road & we went up the hill & found a lynx rufus dead. It made no noise after I shot. The slug tore a large hole in its right pelvic area. A few feet from the car lay the bones of a deer with a rack of ^{bits of} antlers. It is a white tail ♂ (773; pickup); old with dried meat.

22 August In camp all day working on wild cat and Spotted Owl. The Cat had a fully distended stomach - of flesh and chunks of hair plus pieces of chewed long bone. Samples of hide & hair were saved. The owl (#772) had a full stomach full of beetle elytra and bones of a Thomomys (w.z.h.). Band-tailed Pigeons are abundant at this camp. Heard one "cao" (or rather, heat) this a.m. & at 7 p.m. 20 flew over to the S.. Had a brief rain this afternoon. The rancher, "Soule", and 15 relatives and friends visited our camp and showed much interest in us.

22 Aug. Arroyo Mestizo, 7,800 ft., Sierra deluido, Chihuahua, Mexico
collections. He owns a Hereford ranch which
extends from the fence $\frac{1}{2}$ mi. above camp to the Rio
Santa Clara. They left at dark in a light rain & all
crowded into one fairly new pick up truck. They were
very friendly & several spoke passable english -
indeed several of the young ?? had gone to
school in Boulder, Colo.. They gave us a fennel
& "Carne" - needless to say after "spaw", hand-tail
and squirrel this was a feast. At 10:30 p.m. Ned & I
worked up to the meadow calling owls - mainly Spotted
Screech Owl calls. We heard a rustling in the dead
leaves near the rocky cliff and flashed the light
onto a skunk - Ned shot it. On investigating
it turned out to be a striped skunk in one of
Bill's traps. I then flashed the light about & got
a bright red eyeshine 25 ft. up in a willow in
thick foliage. Shot & got a whip-poor-will.
This is about where I had heard a loud call
"chuck" fairly high and sharp. We walked on up
the canyon & shortly heard a hoarse owl loud
& clear on the east cliff. He answered well - Ned
went after it but didn't get close enough to get
a good shot. Returned with more calls, including
spotted owl perches but no luck. Again we heard
the "chuck" & saw what was presumably a
whip-poor-will - again in the thick oaks & willow
about the stream. Ned went out alone & got another.

The moon was just two days bright, then thin clouds.

Journal

23 August Anayo Mesteno, 7,800 ft., Sierra del Nido, Chihuahua, Mexico
Upon awaking heard a Copper-tailed Trogon's
"Ka" repeated at long intervals. It was just above
camp in thick willows and oaks. Did not see it.
Shot a vireo about camp. At 10: a.m. when the trappers
returned I went down the canyon to the large
meadow. Here the rocky cliffs give way to gentle
rolling, shallow hills of "blue oak", juniper &
a few piñon. The flats, several hundred yards
wide in places, is grassy, green & studded with
large pines, huge willows & "blue oaks" (this tree
seems to be a xeric stunted tree; the few about
the mesic meadow are almost respectable oaks).
Western Bluebirds with immatures, robins, slender-
billed nuthatches, turkey vultures, one red-tailed
hawk, violet-green swallow, bridled Chatbaes,
many chipping sparrows (the Mexican Junco is
most abundant in the canyon & disappears in the
meadow), Stellar & Mexican jays, Rock Wrens on the
dry slopes only, many Acorn woodpeckers (this
is of interest: up canyon at our former camp
flickers were the most abundant picis, with
many hairy & almost as many Acorns. Here
the Acorn is abundant in canyon & meadow with
flickers definitely second. Saw only one Hairy
here thus far). The entire area is loaded with
picolated warblers! At this camp site hummingbirds
are only 1/10 as abundant as at the upper ~~up~~ Mestenos

23 August Arroyo Mesteño, 7,800 ft., Sierra del Nido, Chihuahua, Mexico
The vegetation in this canyon is dense except for a few open areas between the two meadows. The upper meadow is lush with vegetation - grasses and forbs, with medium sized willows in very open stands. Here the canyon is 100 yds wide & the walls high. The fence between Zea & Soule's ranches cuts across this meadow. Zea is well grazed by Angus. The canyon down to the larger meadow is 30-50 yds. wide. In general the trees form 100% cover except for a few open grassy spots. The most prominent tree is an oak with large
* leathery leaves (very minor at upper camp & almost none with acorns - most have acorns here). Next is another ~~dark~~⁺ oak - dark green above & pale below. Ash, willow and alligator bark juniper are abundant & next in importance, especially the former two. There is no riparian "Black Oak" here and "Blue Oak" only on the flats above the canyon.

* Quercus rugosa

+ " hypoleucoides

Christman, G.M.
1961

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Journal

Arroyo Mesteño, 7,800 ft., Sierra del Tido, Chihuahua, Mexico
The meadow is open and flat, covered with grasses and forbs. The most prominent tree is a ponderosa pine, next a blue oak as fairly small trees, several large alligator junipers, several green shining leaved oak and huge willows. The hill sides are covered with a grass-oak, etc cover. Meadow $\frac{1}{2}$ mile long up to 100 yds wide. Walked up slope east of meadow to the ridge. From here I could see the Plano and Sierra Madre very clearly, plus the reservoir fields. The mesa substrate is 40% rock from head to body size the rest coarse gravel. About 50% of cover is of grass of several species - all bunch grass. The density of scrubby oaks - hardly any over 10 ft. in height - varies greatly, but averages about 35-50% of entire cover (rest rock & grass). Saw a very large cottontail & chipping sparrow on top. There are two species of oak here plus *Pinus coulteri*.

Christman, G. W.
1961

Journal

49

23 August

oaks are large
on this side - grass
lusher with fewer
"pinjons" and jumpers:

short scrubby oak and
Pinjon - show
lush grass
on this mesa

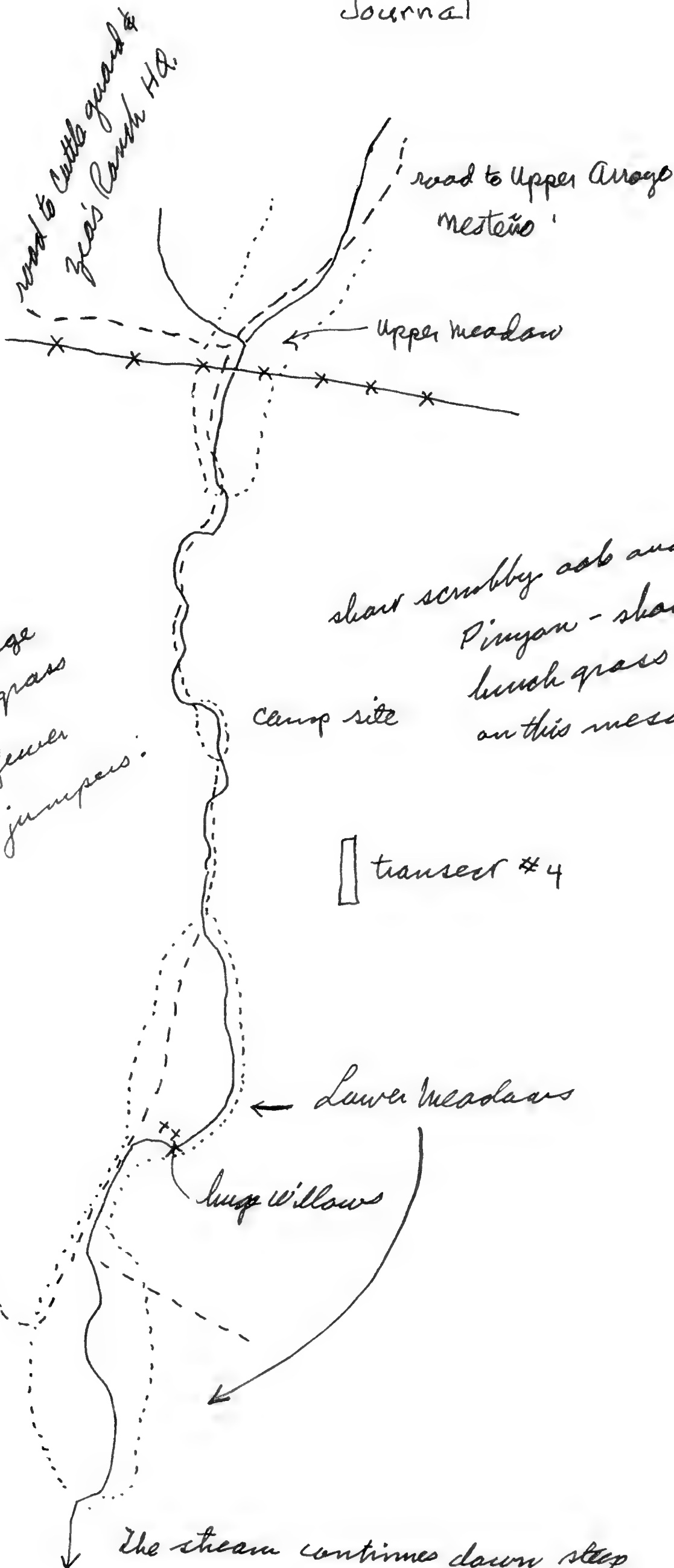
Camp site

transsect #4

Lower meadows

large willows

The stream continues down steep
walled canyon to the "pool"
where ant pellets were collected



Christman, G. M.
1961

Journal

24 August Arroyo Mesteños, 7,800 ft., Sierra del Nido, Chihuahua, Mexico

N96/10



Meadow S. of Camp site; view to NE - upper end of the meadow.

N96/12



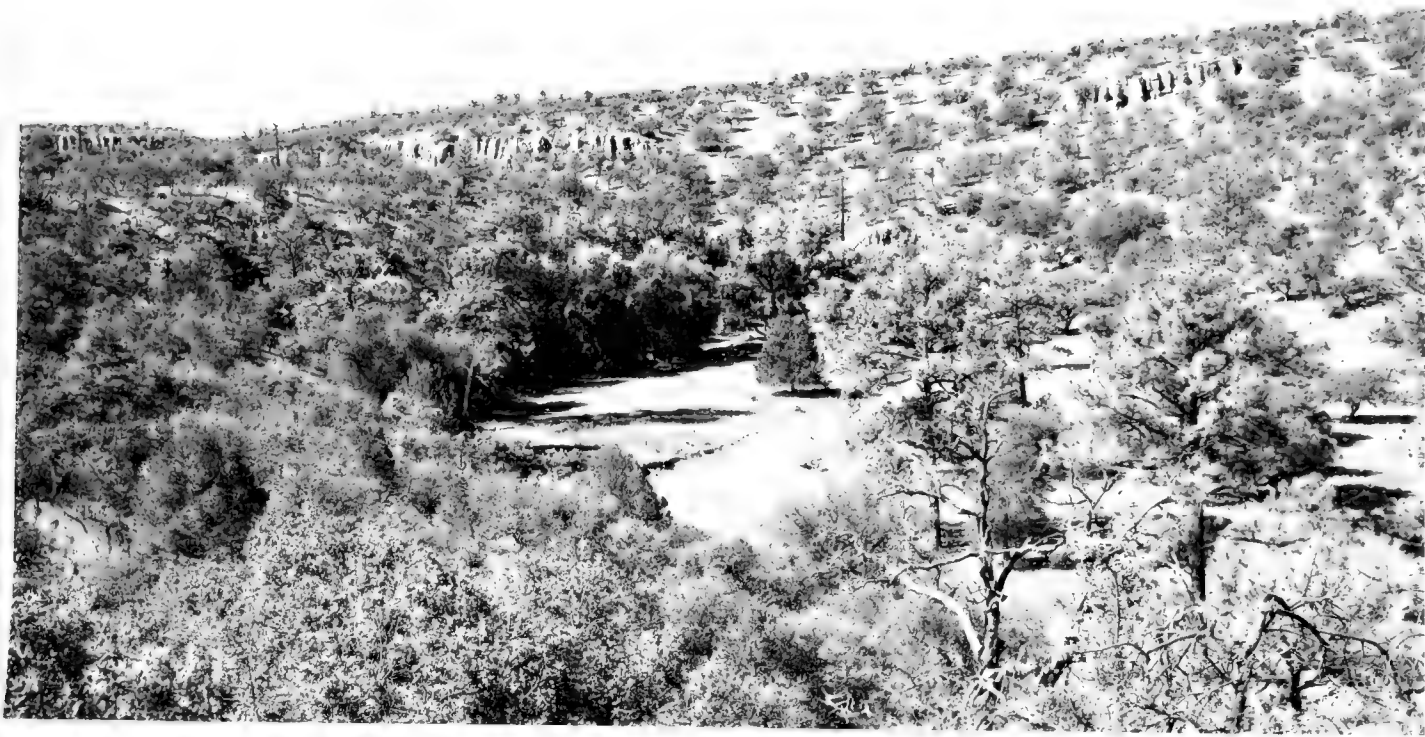
to SW view. Huge willows at the angle of meadow immediately S. of Camp site

Christman, G. M.
1961

Journal

24 August Arroyo Mesteño, 7,800 ft., Sierra del Rio, Chihuahua, Mex.

N96/15



SW across meadow from ridge E of Meadow

N96/16



View to W from ridge (as above) E. of the meadow.

Christman, G. L.
1961

Journal

24 August Arroyo Mesteño, 7,800 ft., Sierra del Nido, Chihuahua, Mexico

N96/17



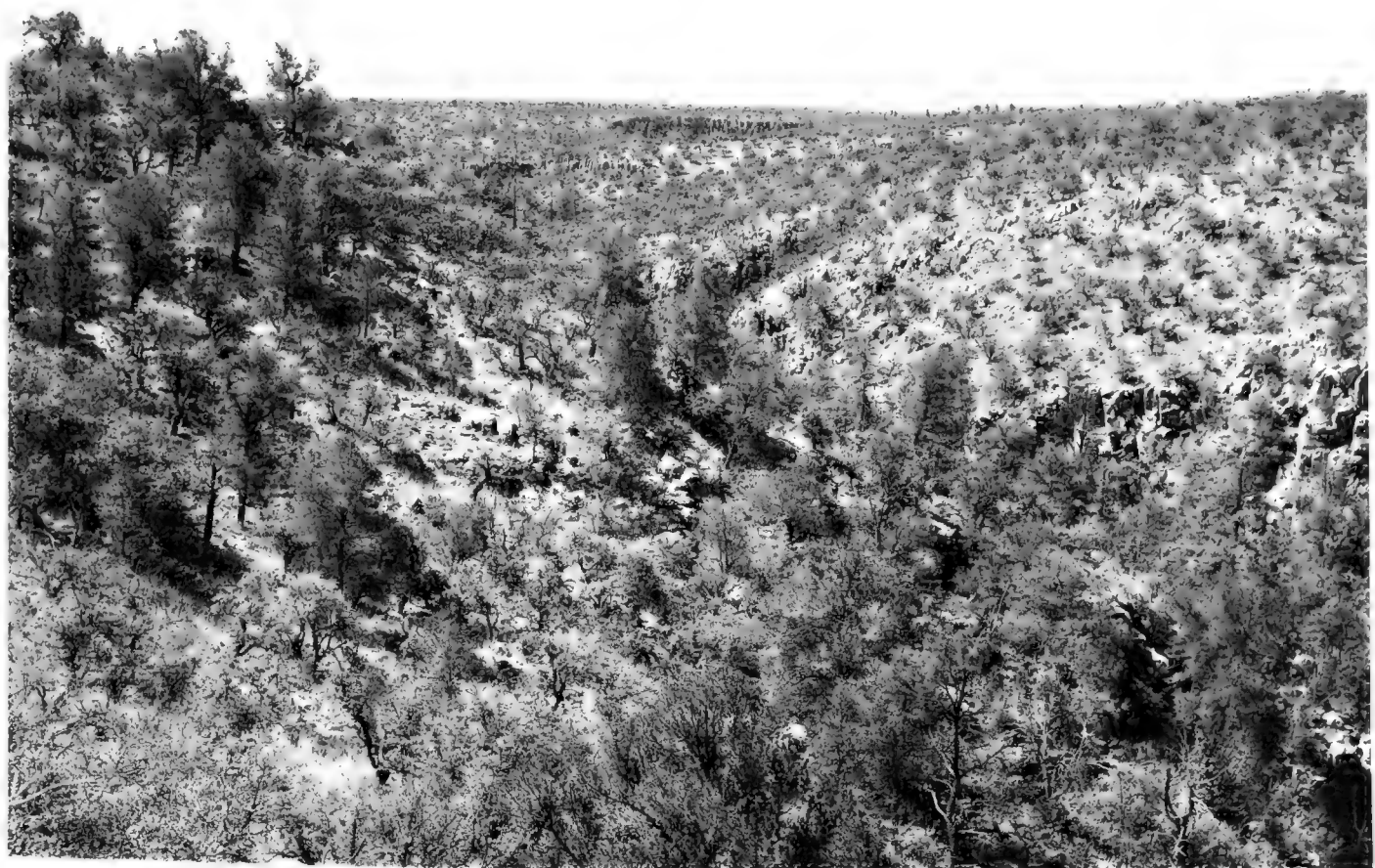
View to SW from ridge to E. of meadow S. of camp site. Note the flat horizon - this block merges gently with the llano. The Mts. are Sierra de la Lunas, E of Rio Santa Clara.

Christman, G.D.
1961

Journal

24 August Arroyo mesteno, 7800 ft., Sierra del Rio, Chihuahua, Mexico

N96/22



SS.W down canyon from E rim over the meadow
N of camp. The camp is about 250 yds down the canyon



N96/26

View of S. end of meadow N of camp from E ridge - where
there are meadows the canyon slope as indicated here.

Christman, G. M.
1961

Journal

24 August Arayo Mesteno, 7,800 ft, Sierra del Rio, Chihuahua, Mex.

N96/29

east



west

to S. at S. end of [↑]the meadow N of camp. Note dead
Juniper ([↑]).

N96/23

west



east

(E side)
To N from ridge at S. end of the meadow N. of camp.
The Arayo Mesteno curves to E (the left here). This is Zca's
property!

Christman, G. M.
1961

Journal

24 August Arroyo Mesteño, 7,800 ft., Sierra del Nido, Chihuahua, Mexico

N96/28



To NE in meadow N. of camp, with clumps of willows. Note lush grass & forbs in this meadow, as apposed to short, sparser growth in meadows south of camp site.

N96/27



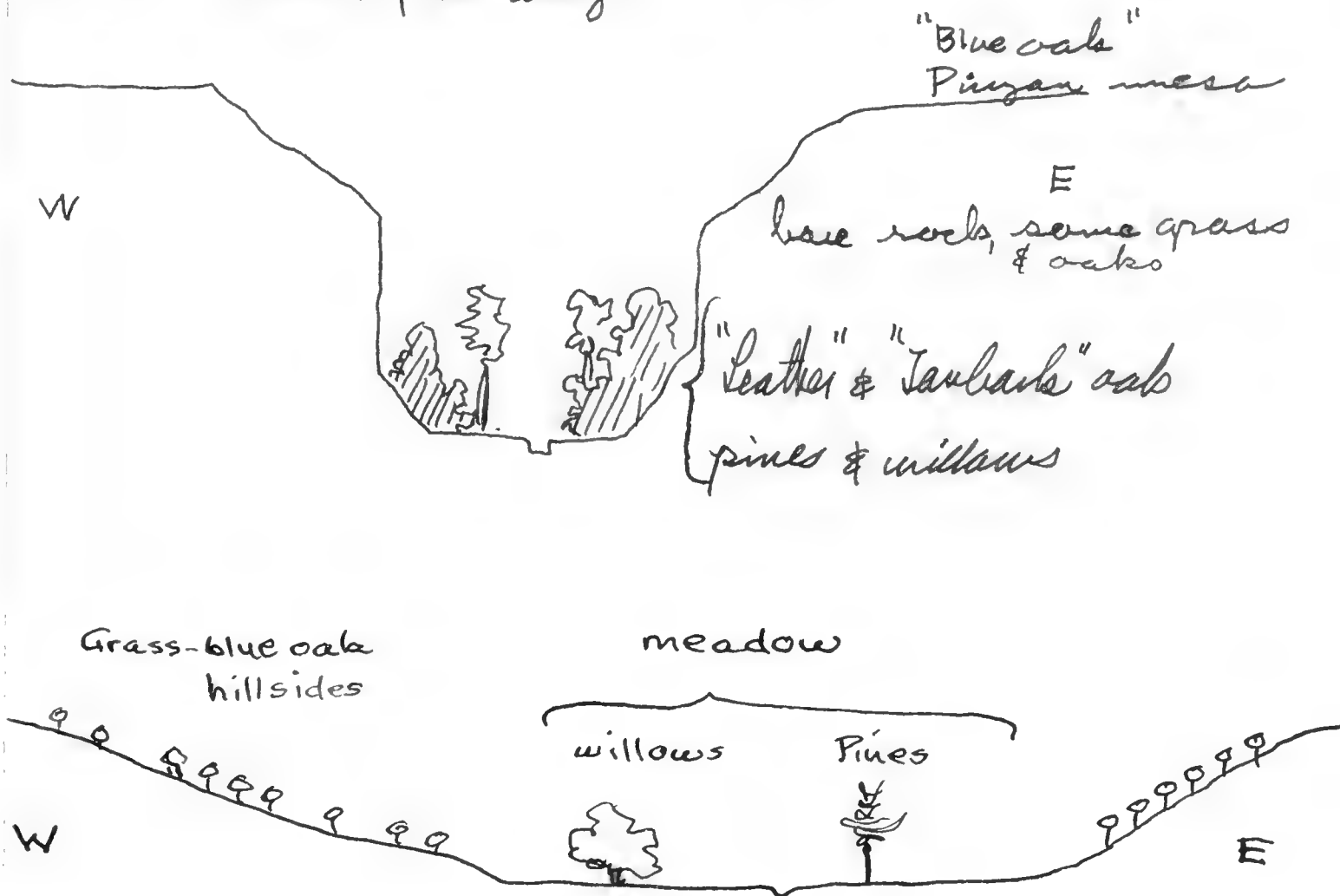
to SE in meadow N. of Camp. The Canyon narrows here and the trees are dense, with only a few small openings. This is where we heard horned owl as night - to Left on east wall.

1961

Journal

August Arroyo Mesteño, 7,800 ft, Sierra deluido, Chihuahua, Mexico

This is a x-section of this canyon



x-section of meadow 1/2 mi. S. of Camp

Christman, S. M.
1961

Journal

Arroyo Mesteño, 7,800 ft., Sierra del Nido, Chihuahua, Mexico

N96/31



road
↓

Jim Anderson beside a pool about 100 yds. S. of Camp site where same fish were collected. Facing NW

N96/32



facing SE. road in middle ground to left
Another pond where fish were collected by Siddicks S. of Camp
this pool is below the one in upper photo.

Christman, G. M.
1961

Journal

51

24 August Araya Mestano, 7,800 ft., Sierra del Nido, Chihuahua, Mexico

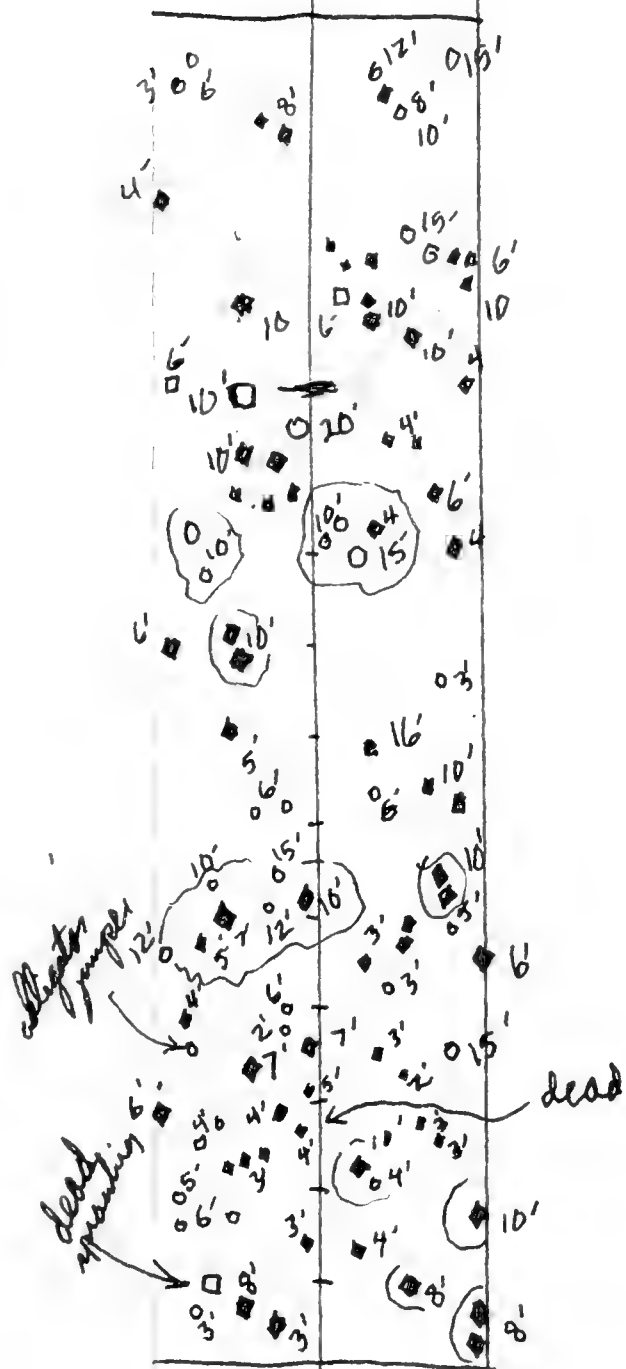
↑
NE

◆ = "blue oaks"

○ = *Pinus Canhoides*

□ = shiny leaf oak
Quercus emoryi

ten yard squares



Coar grass - "purple top" ^{*} dominant

65% grass (dead grass)

remainder rock -

on ridge - mesa SE of camp

numbers refer to height of trees in feet.

* The grass was:

Christman, G. M.
1961

Journal

24 August Arraguesteno, 7,800 ft., Sierra del Rio, Chihuahua, Mexico

N96/19



View in transect Pinus cembroides = the larger trees

N96/18



View in transect short scrubby Q.
and taller pines. The grass cover is deceptively dense
at this angle. In upper photo note the number of
oak seedlings. Oaks are taller 2-3 miles S. near Llano.

Christman, G. L.
1961

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Journal

25 August Arroyo Mesteño, 7,800 ft., Sierra del Nido, Chihuahua, Mexico

We left camp about 11:30 p.m. and proceeded down canyon to the large meadow and turned up the road to the SE & went up a slope of dense "blue oak" & piñon then as we gained the top of the hill we were in the upper reaches of the huge broad and flat llano. The oaks were larger (about 15 ft. or so) and broadly spaced the ground cover was dense grass - green and lush. If this is the "sucinal" it is very different from the California "portland". Few rocks here on the llano. we went due south on a road (?), car tracks; due south is the NE Mennonite "campo" which we passed thru on the way in. On this road we picked up a Hog-nosed Snake. Then a right angle turn to the W. along a fence line dividing rangeland from the fields. We passed two presas - had collected a sandpiper & a ♀ Cactus. at the second we met thru a cattle guard & turned S^W across the llano - to a windmill, then W. to a small arroyo, then S. to a shallow arroyo where the ranch of Sr. Soulé is located. The entire area is llano except SW of the low volcanic hills to the SW - with extensive reddish black rock fences (due S & due W) & meet near ranch. Sr. Soulé was not at home, but his newaues, blonde Mexican wife. They served "pepsis" in dirty glasses & we talked of a camp near the river. The Soulés only spend the summers here & the remainder of the year in C. Chih.. She offered us the use of the

Journal

25 August Arroyo Westeno to Rio Santa Clara Camp, Chihuahua, Mex.
ranch Jaman, Sr. ^{Balthazar} Palomino, who spoke excellent,
clear Spanish, but no English. We went south across
the llano again - with fine Herefords & many horses
with saddle sores. Passed three artificial presses.
Also, an immature Golden Eagle flew 40 yds from the
carefully low. At a fence line we turned W. and
skirted another stone fence (W. extension of same).
Then down a shallow river valley to the "Rio
Santa Clara" - which has the flow of Strawberry
creek. Crossed a new bridge & went SW among
the "menzonitas" fields, adobe houses & yard fences.
Stopped at a general store run by 2 young men.
These guys spoke good English, Spanish and a
sart of bastard German. Signs were in all three
languages - and mixed! Many are from Canada.
Bought cheese at a creamery & also got some
gas. The fields are neat & well managed. These
are a thrifty hard working people - some are
rather fine looking Creans while others have the
dull expression of the European peasant stock.
We returned to the river & found a camp site
1 mile from the camp Jim Anderson occupied
last year. A flock of 20 Rio's Ducks flew
from a pond 1 mi. N. of our present camp.
Started raining about 6: p. m. & continued
till 10 or so. Had a good bat shoot & I got
an immature night hawk. The mosquitos are BAD!

Christman, G. M.
1961

Journal

55

26 August 1 mi. S., 1/2 mi. E. Santa Clara, Rio Santa Clara, Chih., Mex.

Out hunting early - grass is high and very wet. Cut down to the river & proceeded up stream 3/4 a mile going over every tree. Saw & missed a ♂ Lazuli Bunting. Blue Grosbeaks abundant & noisy. Many Red-shafted flickers, a few Brown towhees high in willows & cottonwoods. Lark Sparrows & Chipping are abundant. Many pileolated warblers & a few Mex Gullivary type jays - not positive. Many Cassin's Kingbirds and W. wood Pewees, one black phoebe.

Two scrub jays - got one. Saw a ♂ Western Tanager & many ♀ & imm. tanagers of undetermined species. One litterin? [green heron?] went over out of range.

Mourning Doves are very abundant. In the p.m. I walked up the meadow (N.) 1 mi. - beyond the 2nd stone fence (from S.) there was a series of small pools with minor amounts of Eleocharis in shallow water, 3-sided Scirpus of sarts & Typha. Flushed a Sora Rail at my feet & flew thru the pattern of #6s. Crept up on the pond below a shallow presa - it was surrounded by Typha. Ruddy Ducks came out in waves - a total of about 40; plus about 10-20 teal - with blue wing. Got a double on the big ducks. One fell in dense Typha with deep water & recovered the other. A number of ^{8 inch} channels were cut in the vegetation - with water up to 5" deep in them - muskrats? On the way back to camp the Cassin's Kingbird and the

Christman, J. D.
1961

Journal

29 August 1 mi. S, 1/2 mi. E, Santa Clara, Rio Santa Clara, Chihuahua, Mexico

N97/13



View to S across llano from stone fence S. of camp site

Rio Santa Clara flows along the riparian growth
on the right. X is adobe buildings which were used last year by

audison
willis &
McGinnis



N97/14

detail of llano vegetation on S. edge of the
low volcanic hills.

Christman, J. M.
1961

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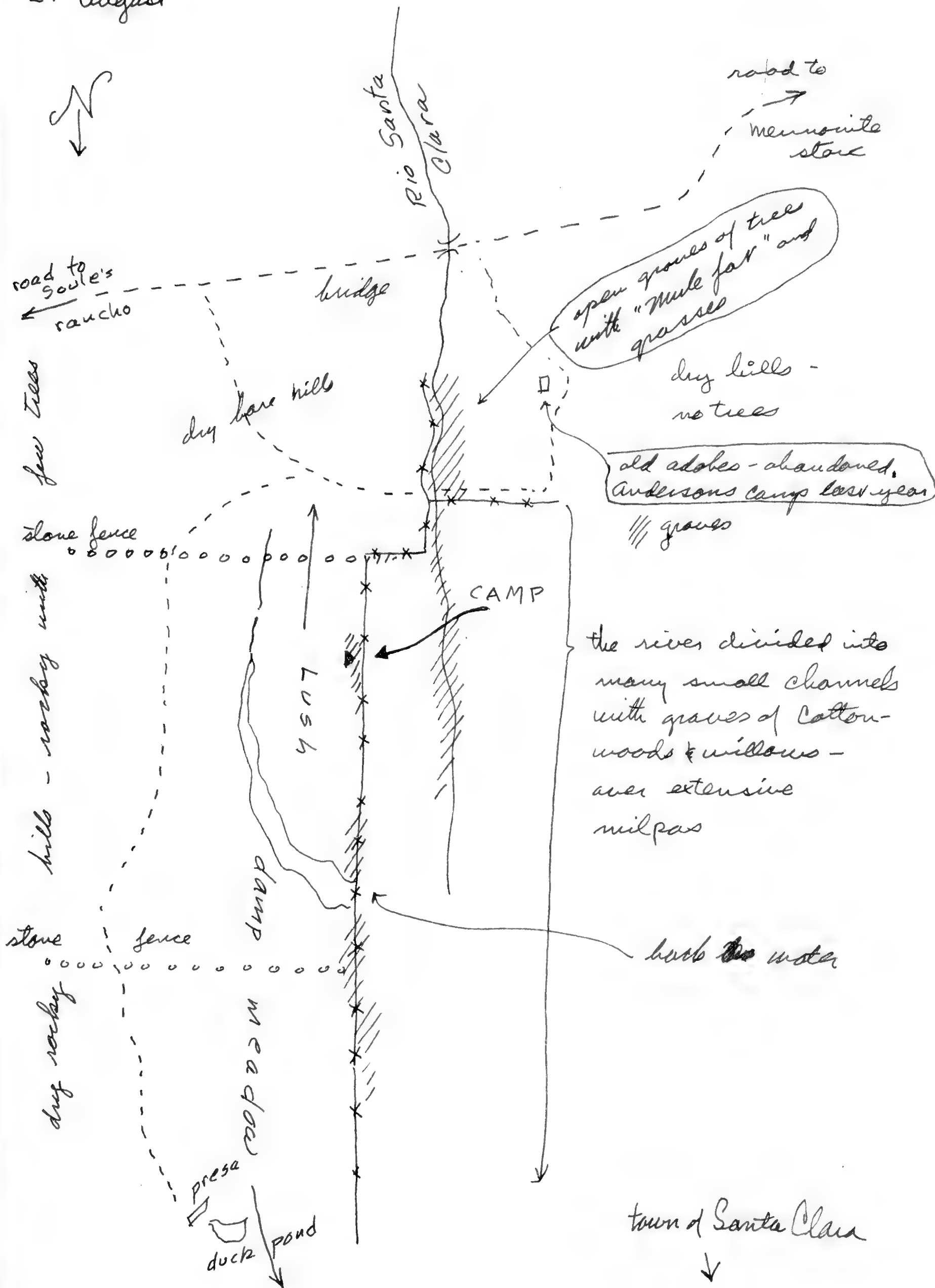
Journal

26 Aug. 1 mi. S., 1/2 mi. E. Santa Clara, Rio Santa Clara, Chihuahua, Mex.
opposite hill-side suddenly flew high and
called loudly. A Cooper Hawk was flying
& gliding across the meadow about 6 ft.
above the grass. Collected it. Rain in late after-
noon.

27 August Worked on specimens & cooked till noon. At one
p.m. it started raining - drops the size of a quarter
then the wind hit & gd near blew our tent away -
in 15 minutes it was over. All but Bill L. went to
the village of Santa Clara - a solid mass of adobe
structures & immediate crowds of the curious.
At 4:30 p.m. I walked into the low rolling hill
to the east. They are covered with volcanic
rocks - and widely spaced "blue oaks". The
canyons are more heavily covered with
oaks, plus a sparsely distributed additional
oak, plus short current like shrubs & a
"mesquite" - these are limited to the more
mesic slopes & not on the flat benches.
The "Blue oak" here is in its "arborescent" form
which is more tree like & not the scrubby
plant of transect #1. Many minor forbs &
a half dozen dominant grasses - the cover
of grass varies from 40% to about 75%.
The exposed flatter slopes are the harvest of
vegetation. I have seen nothing in this
community except the birds that is reminiscent

Journal

27 August



Westman, G. M.
1961

58

Journal

27 August 1 mi. S., $\frac{1}{2}$ mi. E., 6,100 ft., Santa Clara, Chihuahua, Mexico
~~of the California situation where shrubs are~~
for more significant. The birds observed
on the dry rolling hills are:

Chipping Sparrows - abundant
Red-shafted flickers - "
Scrub Jay - several, sparse
Rufous-crowned Sparrow - 3 in dense oaks
Bridled Chickadees - only one
Acorn woodpecker - abundant, gregarious
Cassin's Kingbirds - abundant
Brown Towhees - not too common
Mourning Dove - abundant
Lark Sparrow - numerous on flats
W. Meadowlark - common
Mocking bird - common
Curved-bill Thrasher - a few
Bewick Wrens - a few
——— bush-tits - one flock
——— hummers - a few
——— shrike - not common

Collected: pair of ladder-backed woodpeckers
one other seen

Virginia's Warbler - shot only 2 seen,
one in dead tangle, other dense oak

fledgling mockingbird

a tanager - a dozen or so

Blue-gray Gnatcatcher & road runner

Journal

28 August 1 mi. S., 1/2 mi. E., 6,100 ft., Santa Clara, Chihuahua, Mexico

Spent day around camp skinning & getting plants in order. In late afternoon went up to spring to collect fish & check the ducks. Saw several anas diazi & one unidentified small duck or teal. Bill claims to have seen a coot - I didn't. Typha is only in deep water. Many unidentified or-able water plants here. No bird on the "roadrunner" nest - it must be a nest of that species. - ?

29 August Rained last night. Ned ill. We rushed about trying to get everything together. Photographed all vegetational types. The riparian is the simplest. The dry llano is clay to clay-gravel-rock with 25 to (in best sites in swales) 75% grass cover. No one species of grass is really dominant it appears. The dry llano blends into the volcanic hill area. In the xeric spots the mesquite appearing shrub appears, but is always widely spaced & never over 2 1/2 ft. high. The current appearing shrub is restricted to the rocky draws where the oaks are dense. Forbs are very minor in cover - about 5% on these areas. The grass cover on the hills ~~is~~ ^{varies} from 50 to 80%, with few spots, less than 50%.

The meadows are lush, 100% cover, with the plants up to 3 ft. in height. The yellow composite is in clumps in moist areas; the tall yellow headed grass (dry heads) on drier sites.

Christman, G.
1961

60

Journal

- 29 August 1 mi. S., 1/2 mi. E., Santa Clara, Rio Santa Clara, Chihuahua, Mexico
Cloudy all day with thunder heads over the del Rio.
Two areas on this side of the river show any signs
of grazing, indeed, cattle in small numbers only
up the meadow (to N.) Willows along backwaters
& presas in meadows. Flocks of blackbirds -
perhaps red-wings. Saw 2 yellow headed
Blackbirds yesterday at duckpond - positive
identification. Green-backed Goldfinches in camp.
- 30 August We left Camp last night at 6:00 p.m. Got gas
at the Mexican station & proceeded to Canon
Santa Clara. Milages: Soule's ranch to La Parrita = 45 mi.
La Parrita to Primavera = 10 mi.; La Parrita to ^{La Cima} ~~Santa~~
~~Rita~~ Motel = 49 mi. We arrived in Chihuahua
at 12:15 a.m. Ned still sick & I started the drizzles
at the motel. Spent the day in town -
back to Santa Rita Motel for the night.
- 31 August Left early & drove up Highway 45 to the gate.
no! opposite the "White Elephant" where we turned
east. From the road here the area is a grass-
land, with mesquite toward the east. We
drive past the ruins of the old town of Ojo ^{de} Laguna,
near the rancharia of Sr. Guitterez, and onto the
village of "Colonia Ojo Laguna" among the cottonwoods
and then back to Guitterez, who we talked to. He was
very friendly; remembered Jim from last year.
He showed us into a meadow 1/4 mi. E. of his home
where we set up a camp under 3 large

Johnson, G. M.
1961

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Journal

31 August Ojo de Laguna, 5,200 ft., 25 mi. S. Saltillo, Chihuahua, Mexico
cottonwoods. Barn yard "would be better for the can
shit is 6 inches deep. After camp was set up I
walked south across the grassy meadow to
several stringers of mesquite. Shot an Aimophila
of undetermined species. Saw the following birds:

meadowlark 2 ad., 4 ± imm.

shrike - sp.? one

Say Phoebe one

Chipping sparrows many

Barn Swallows many

Pied-billed grebe in Alamos very many

Gambel's Quail several

Turkey Vultures several

It started raining in late afternoon &
continued into the night. Still sick with the runs,
a cold, etc. Shot several bats - lost all in the
thick tall grass.

We are camped on the edge of the now abandoned
village of Ojo de Laguna, the ruins of a dozen or so
old adobes is to the W & NW - over a distance several
hundred yards. The present town of Colonia Ojo
Laguna is in an extensive grove of cottonwoods
1 mi. + to SE. The railway station & town of Ojo Laguna
is directly E. of us across the dry playa of Laguna
de Ensenillas. This lake should not be referred to
as Ojo Laguna.

Estuán, G. M.
1961

Journal

62

1 Sept. Ojo de Laguna, 5,200 ft., 25 mi. S. Salgado, Chihuahua, Mexico
Up early with a clear sky; found one of the bats
I shot — 15 yds closer than I had figured last
night. All fallen bats should be "marked." The
turtle I caught yesterday escaped! Went for a
walk around the trees & milpa NE of camp (the
average is about 5 acres). Saw a yellow-headed
Blackbird fly into the fields. Collected a ~~few~~ pewees.
Saw several vermilion flycatchers, one ♂ Blue
Grasshopper and three billdeers. Found 2 dead Barn
Owls in a path thru the corn — probably shot by
old man Gutierrez. Hit an adult ♂ yellow warbler
(with reddish breast streaks) but lost it in the tall corn.
In afternoon went into the mesquite SW of camp
the only bird I saw was a quail which
flew at my approach. Shot below two huge rabbit
ears, a cloud of dust & he was off — couldn't
find anything. Then went to the line of cottonwoods
from some old ruins to near the well. At
the latter spot saw a Barn Owl & vermilion
flycatcher. Shot up a Empidonax hammondi —
transferred to the remains & had identified it.
Brown marsh hawk working damp spots 1/4 mi.
E. of camp. The usually numerous Barn Swallows
were mixed with other species about the trees in
camp. Shot a hawk & imm. violet-green swallow
from these mixed flocks. A minor amount of
fighting was observed but couldn't identify

12

Christman, S. M.
1961

Journal

63

1 Sept. Ojo de Laguna, 5,200 ft., 25 mi. S. Gallego, Chihuahua, Mexico
the species involved. no rain today or evening.

2 Sept. walked N. among old fields, past cottonwoods & willows & the ruins of old Ojo de Laguna. Birds in old fields, trees & edge of grassland:

Diary Ducks - 6 from a tule spring

Sparrow Hawks - one pair

Marsh Hawk - pair seen separately

White-winged Dove - one

Mackinbird - one

♀ Summer Tanager - one

(? orchard) - male, family group.

Cassin Kingbirds most abundant here

Vermilion Flycatcher, abundant

Shrikes common here & in mesquite

Ladderbacked Woodpecker one

Wood Pewee (collected one)

Say Phoebe ; a Myiarchus - 1/2 day.

Pileolated Warbler (& yellow - ?)

Chipping, Black-throated, Lark & Clay-colored Sparrows

Birds in mesquite:

Road Runner - one

Gnatcatcher - coll. the one seen -

Pyrrhuloxia - pair

Savinson Hawk

Turkey Vulture

heard goldfinches

Estman, R. M.
1961

64.

Journal

2 Sept.

Ojo de Laguna, 5,200 ft., 25 mi. S. Salgado, Chihuahua, Mexico

The mesquite thickets near camp are fairly dense and ~~make up~~ ^{make up} from 40 to 70 % of the cover, arially, on uphill side (here W.) of the grassland. A species with a fine to seven inch roundish pod is by far the most common. Another species with dark brownish-purple pods, flat and inflated in wet area, constricted between is not at all abundant here (perhaps 2 %). A short shrub 3' high, ~~dark~~ with small dark green leaves, whitish gray branches with thorns 1" + is spottily distributed and also is very minor in abundance. Another species of mesquite is a shrub with small leaves and short curly pod in clusters. These three minor species (hic) (6:30 p.m.) make up the 5 % of the other species (the long pod, large leaf one is dominant). The areas between the stunted mesquites is a gravel to a clay — in flats to narrow gullies. Forbs vary in density and species. In several places a carpet of 2" high non-flowering forbs cover many square feet. A small 6-10" high grass is the only grass prevalent within the thicker. It was collected — the forbs were not. Although I am far from positive, there maybe two age classes of mesquite trees. The vast majority are short stunted trees or shrubs under 6 ft. high; a few are trees over eight feet tall with well developed trunks — and a deeper green.

Christman, G. M.
1961

Journal

3 Sept Ojo Laguna, 5,200 ft., 25 mi. S. Gallego, Chihuahua, Mexico



to SW (300 yds SW of Camp) - meadow - mesquite ecotone
Mt. is "Cerro Campana"



detail of above situation; plus fresh mound - rabbit
gopher. tall grass = Sporobolus cryptandrus

1961

Journal

65

3 September Ojo de Laguna, 5,200 ft., 25 mi. S. Gallago, Chihuahua, Mexico
Walked out to the mesquite thickets SW of camp, to photograph and collect some plants. The plant community here is simpler than N of the ranch. Also, there is more surface erosion and deeper gullies which makes me question the long term status of the thicket. The tree - shrub community forms less than 1 percent of the cover here. Again the dominant meadow grass (near camp) penetrates the first 50 ± yds. of the mesquite - then disappears. The birds are far less abundant here than NW of camp & the house (where I was yesterday).
Saw: several black-throated Sparrows, a mockingbird, & a shrike. While in the thicket I ran into 2 cows going to water. Flying from tree to tree along with them was a shy dark brown bird. Followed the cows 100 yds to water and shot what appears to be a Molothrus. We did not have any rain yesterday or last night. It was hot and very windy yesterday afternoon. This morning was completely overcast with long stringers of sluggish cumulus clouds which had dispersed some what by ten a.m. At noon the cumulus clouds had again formed everywhere and thunderheads over the del Rio. These will grow larger & coalesce into huge flat bottomed sheets & it will probably rain in the p.m.

Christman, J. L.
1961

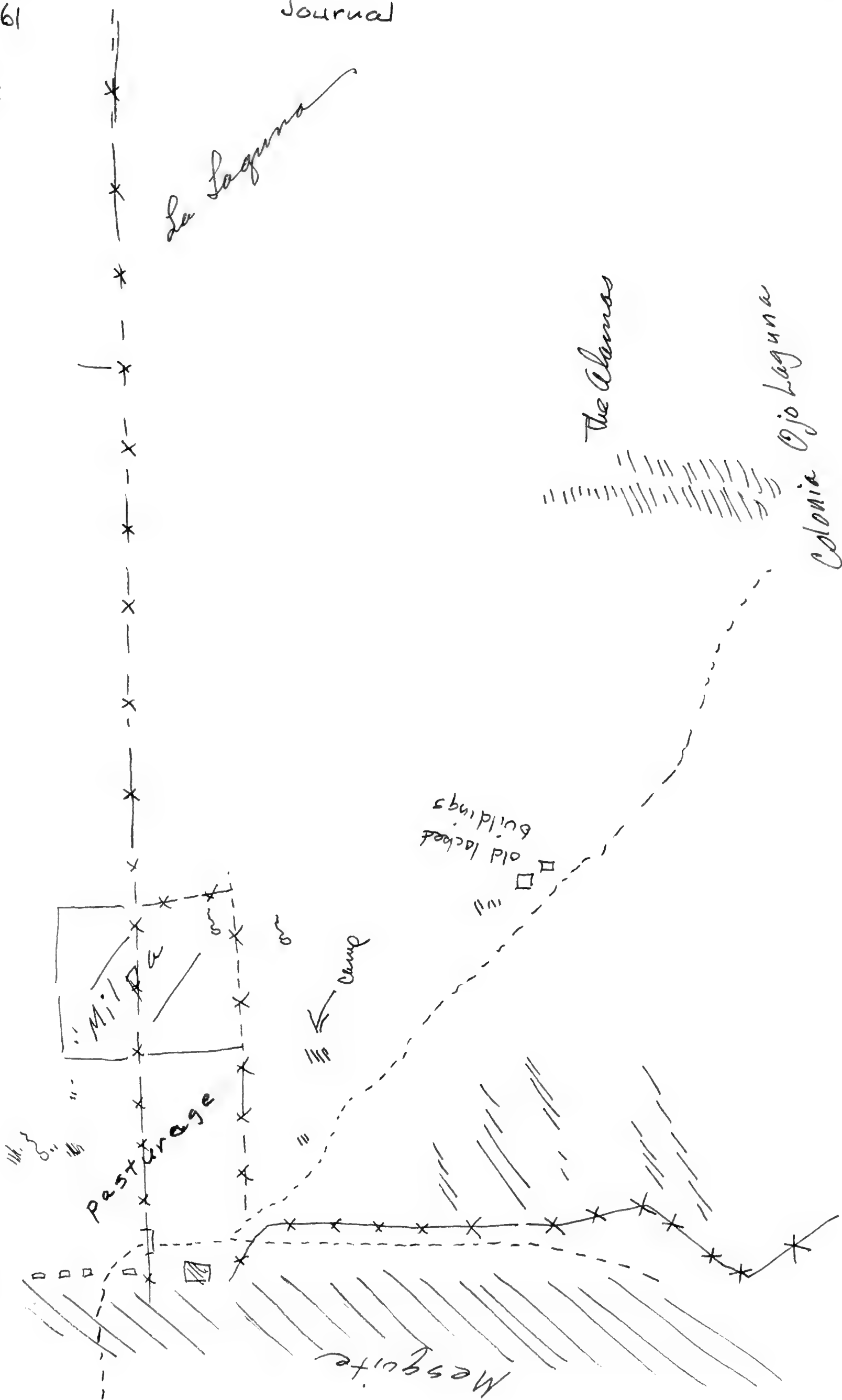
67.

Journal

3 Sept.

○ = spring

N ↑



Christman, S. M.
1961

65a.

Journal

3 Sept

Ojo de Laguna, 5,200 ft., 25 mi. S. Gallago, Chihuahua, Mex.

N98/8



N98/9



Christman, G. W.
1961

Journal

3 Sept.

Ojo Laguna, 5,200 ft., 25 mi. S. Gallego, Chihuahua, Mexico.



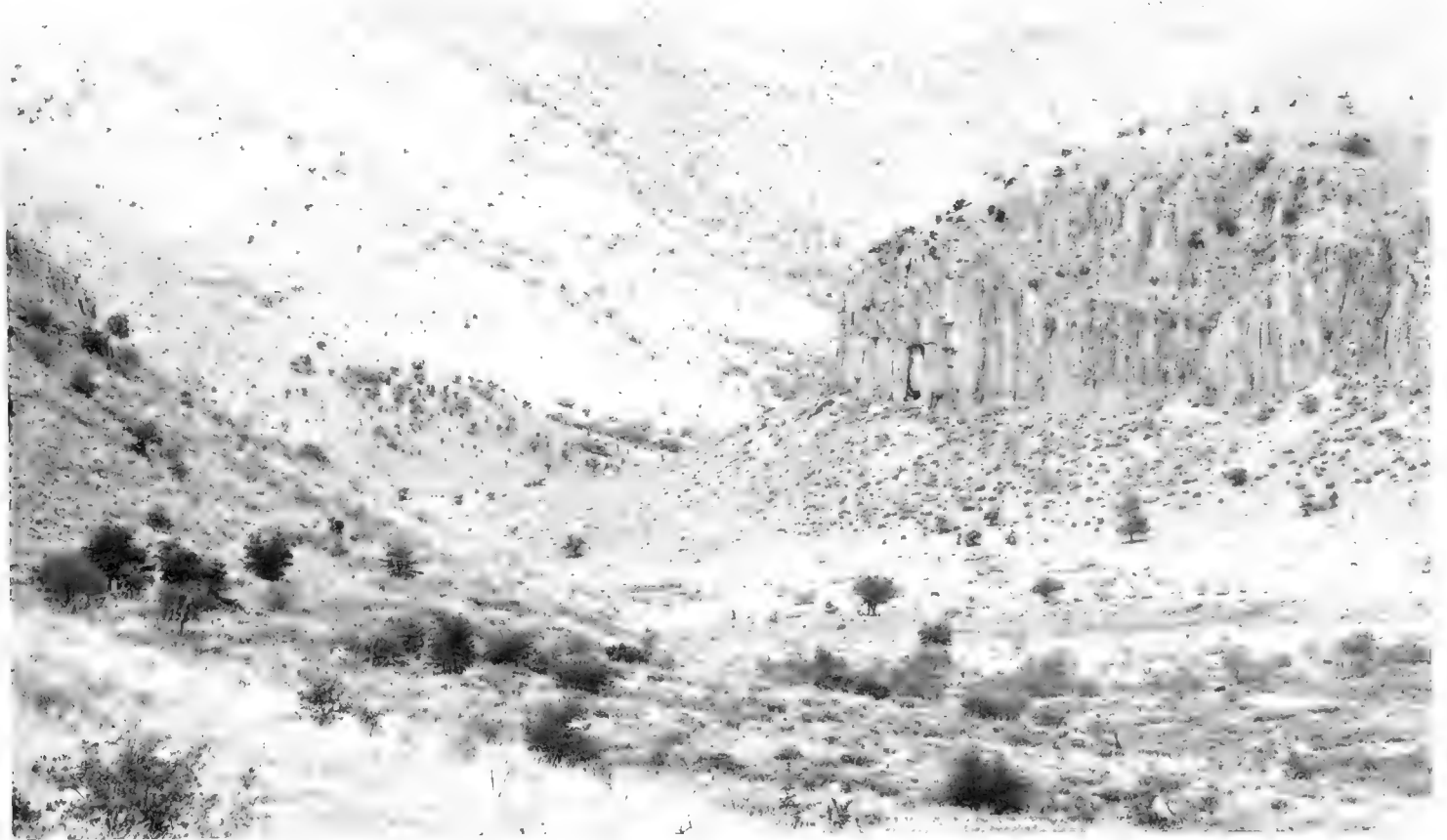
Dipodomys spectabilis mound — plus steel trap!

- 3 Sept. Ojo de Laguna, 5,200 ft., 25 mi. S. Gallego, Chib., Mex.
no rain last night, but a windstorm from the north.
- 4 Sept. Ned Johnson, Jim Anderson & I drove up to the old camp
site "5 mi. N. of ^{5,600 ft.} Cerro Campana", which is in the lower
Cañon de Santa Clara. The marmosets are re-making
the road. I worked up a slope on the south wall
to sample the vegetation. This N. exposure is
fairly steep and open. Many small oaks of 4 to 8 feet
tall, few are taller. Most look like sprouters. They
are not evenly distributed - a few small groves
and more in the deep gully cuts. The ~~open~~ ^{cave} oaks
much further up canyon is denser - almost 75
% in many places. The familiar "Blue Oak" is
a co-dominant with one with shining green leaves,
dark bark which in mature trees tends to develop
vertical deep clefts. The smaller new limbs are
grayish. Other plants are: a yucca with large
fleshy bluish-green dagger leaves with little, if any,
shedding on the edges. A "Gatal" type plant
(specimens), a nolina of some sort and
Ocotilla which has green leaves but no flowers.
These plants are not overly abundant & are
obvious. No agave here. A small mesquite
like plant is the only real shrub element here
but not important. The hillside is very
rocky. The dominant bunch grass which
is abundant dries with a light yellowish,
tall, feathery head - they are blue when

Chris Truan, J. br.
1961

Journal

4 Sept. 5 mi. N. of Cerro Compañã, Sierra del Nido, Chihuahua, Mex.



to NNW from S slope. near mouth of Cañon de Santa Clara



Jim Anderson

to NW across grassland to del Nido; about $\frac{1}{2}$ of distance
between "La Parrita" on highway and mouth of Cañon de Santa Clara

Christman, G. M.
1961

68

Journal

4 Sept.

5 mi. N. Cero Campana, 5,600 ft. Sierra del Nido, Chihuahua, Mexico
mature. They were abundant at Lower Nesterio.
A few Alligator Bark Junipers. The oaks farther up the side
canyon are much larger than those here. A gray
shrub with no flowers and green shrub with yellow
flowers are prominent, besides the bunch grass -
The floor of the canyon is broad here - 500 yds. and
is well vegetated. The drier alluvial sites are covered
with "Pinsia" while the damper areas have tall "mule
fat" in dense stands. Oaks are not abundant
the present. Cottonwood, willow and ash are
the riparian growth only where the water forms
pools - which is not too frequent. This growth
is not dense & is pretty well limited to the S. edge
of the canyon floor. Desert willow (Chilopsis) - ? -
is sparse in the flood areas.

Birds seen here are:

Chipping Sparrow

Solitary Vireo

Road Runner

Wood Pewee

Robins (with immatures)

Black Phoebe

Brown Towhees

Cassin's Kingbird

Rock Wrens

Bewick Wrens.

(orials & tanagers sp - ?)

Piedated & Virginia & Mac Gillivray's Warblers

Redstarts

Black-throated Sparrows

Rufous-crowned Sparrows

Christman, J. M.
1961

Journal

69

4 Sept. 5 mi. N. Cerro Campana, 5,600 ft., Sierra del Rio, Chih., Mex.
After checking the vegetation and photographing
I collected a House finch and a grasshopper (blue).
Jim Anderson shot a Sigmodon ochrognathus
in bunchgrass on the rocky edge of a terrace 50 ft.
above the canyon floor - "Blue oaks" and a yucca
were close by - this is in the area I photographed.
We then went down to the flats near "La Parita"
(F.L.W.'s). The area here is a broad flat alluvial
fan of clay with some rocks from fist to head
size, plus. The soil is reddish. A bunchgrass forms
the aspect of the area, although two shrubs are
significant in coverage - up to 20% perhaps.
Could not identify the grass. Agave are also found
in very sparse numbers on flats. Drove the 7 mi.
to the turn off to Ojo Laguna on highway 45. This
entire area is grazed, especially E. of the road.
Mesquite increases in frequency over the route
as a very widely spaced shrub 3-4 ft. tall.
After the turn off the mesquite gets denser and taller
to the site of old Ojo de Laguna, where it is ~~the~~ lush.
Forbs and short grass is present everywhere.
The day was cloudy and overcast, but no
rain or sign of rain - in the evening a mild N.
wind arose. Red-tailed Hawks were seen along
highway and near camp. The flock of blackbirds
(sp.?) in the milpa area has increased to over 75.

Journal

5 Sept. 24 mi. W. Sallego, 5,200 ft., S. Sierra Mojina, Chihuahua, Mexico
 We left camp at a little after 11 & proceeded N. up
 highway 45. From where we came out onto the road
 N. to the R.R. ^[Est. Arados] Crossing near some low hills about
 50% of the cañon is mesquite - low shrubs. We then
 entered a grassland - it appeared gray in many
 spots due to dead stems. Mesquite is virtually
 absent over most of this area. At 15 mi. S. of the
 Sallego Admunda there was a band of Larrea
 As we approached Sallego we again ran into
 mesquite. From here we turned almost due W.
 with more mesquite and cattle. Then we passed thru
 some hills and into grass. At 13 mi. W. of Sallego
 we picked up a Heterodon D.O.R.. As we approached
 Sierra Mojina we again hit mesquite and areas of
Larrea. Went into the small town of "Ricardo Flores
 Carmen = Magón" and found a good store - then back and
 turned S. onto a road east of the Sierra Mojina which
 was marked "La Mojina Mina" - a mine was
 present on the slopes of the Sierra. The road goes S. then
 turns W. immediately S. of the Sierra. Then over a few hills &
 out onto the llano, which is mainly mesquite and tall
 grass. The Sierra del Nido stands high to the west. After
 driving about we stopped at Rancho "El Muchacho" - as
 it started to rain hard. We returned to a site where
 the road crosses a streambed at the south end of the
 Sierra Mojina. As we were setting up camp just off the
 road under the walnut trees a ^{pickup} ~~car~~ stopped - and came

at
Christman, J. M.
1961

Journal

5 Sept.

S. edge of Sierra Mojina, 5,200 ft., 24 mi. W. Salgado, Chihuahua, Mex.



Plano & Mesa de Apache (Sierra del Nido), to W., from hills $\frac{3}{4}$ mi. SW of Camp. 4 p.m. just before thunderstorm

Christman, G. M.
1961

71.

Journal

- 5 Sept. 24 mi. W. Sallego, 5,200 ft., S. edge Sierra Mojina, Chihuahua, Mexico
a dumpy little man, drunk & almost incoherent -
proclaiming, once again, "yo hefe". So we talked with
the local patron - who will return mañana when
sober. His ranch hands were a tough looking lot.
I walked out of camp - saw a Redstart, got a
Western Tanager & a white-winged Dove. At the
same time Jim was charged by an (C.) atrac which
caused much excitement. After dinner Ned shot an Elf
Owl 25 yds. W. of camp. Also saw a Barn Owl &
heard a Harned Owl. We saw 2 Swainson's Hawks
several miles SW of this camp on the llano. Both were
perched on short mesquite trees. Only one bat was
seen. One poor-will seen & night hawks heard.
- 6 Sept. Walked up the wash (to W.) thru dense stands of a
giant grass between 5 & 6 ft. high growing in the lowest
part of the broad shallow drainage way. These areas
are dotted with sparse individuals or groups of "desert
willow" (Chilopsis) and black walnut (Sapindus s.). On the dry edges
of this 'wash' are dense stands of mesquite and the
brown broad poded mesquite. The alluvial fans
are covered with low (3-4 ft.) open stands of
Larrea & other shrubs. The rocky hillsides
have ocotillo, a yucca and a huge broad leaved
Opuntia. The latter has large purple fruits
which are avidly eaten by: anales, tanagers,
mashingbirds, ^{capred-filled} thrashers, black headed grasshops,
black throated sparrow, Pyrrhuloxia, cactus wren, ^{house} finch.

Journal

6 Sept. S. edge Sierra Mojuna, 5200 ft., 24 mi. W. Gallego, Chihuahua, Mex.

Birds seen today are:

Mourning Dove common

Cactus Wrens common

Black-throated Sparrows abundant

Curved-billed Thrasher common

Blue-gray Gnatcatcher

W. Mockingbird very abundant

Pyrrhuloxia common

Picolated Warbler common

House Wrens common

Wood peckers common

Western & Cassin's Kingbirds abundant

Ash-throated Flycatcher shot the 2 I saw

7 Sept. Walked around the hill N. of us, to E. and up a shallow draw & saddle to an easterly drainage. The entire area was Larrea with other short shrubs, plus Opuntia on the gravel washes, etc. The hill sides were of short grass, forbs, a Nolina, a yucca and the "Sotol". None of the plants were in bloom except the forbs and some of the sotol and Larrea. a procumbent forb with purple flowers is abundant as a mat on the gravel-sand washes. I hunted for the ^{Black-throated} Harpy Eagle that Jim saw yesterday - no luck. ~~Desert Sparrows~~ & Clay-colored were very abundant, as were Townsend & Picolated Warblers, mockingbirds. 7 flushed fox scaled Quail. Caught one horned Lizard.

Christman, J. W.
1961

Journal

07 Sept. S edge Sierra Mojina, 5,200 ft., 24 mi. W. Sallego, Chihuahua,
Mexico.



View E. from site 1 mi. NE of camp. at base of hill on
edge of extensive alluvial fan;

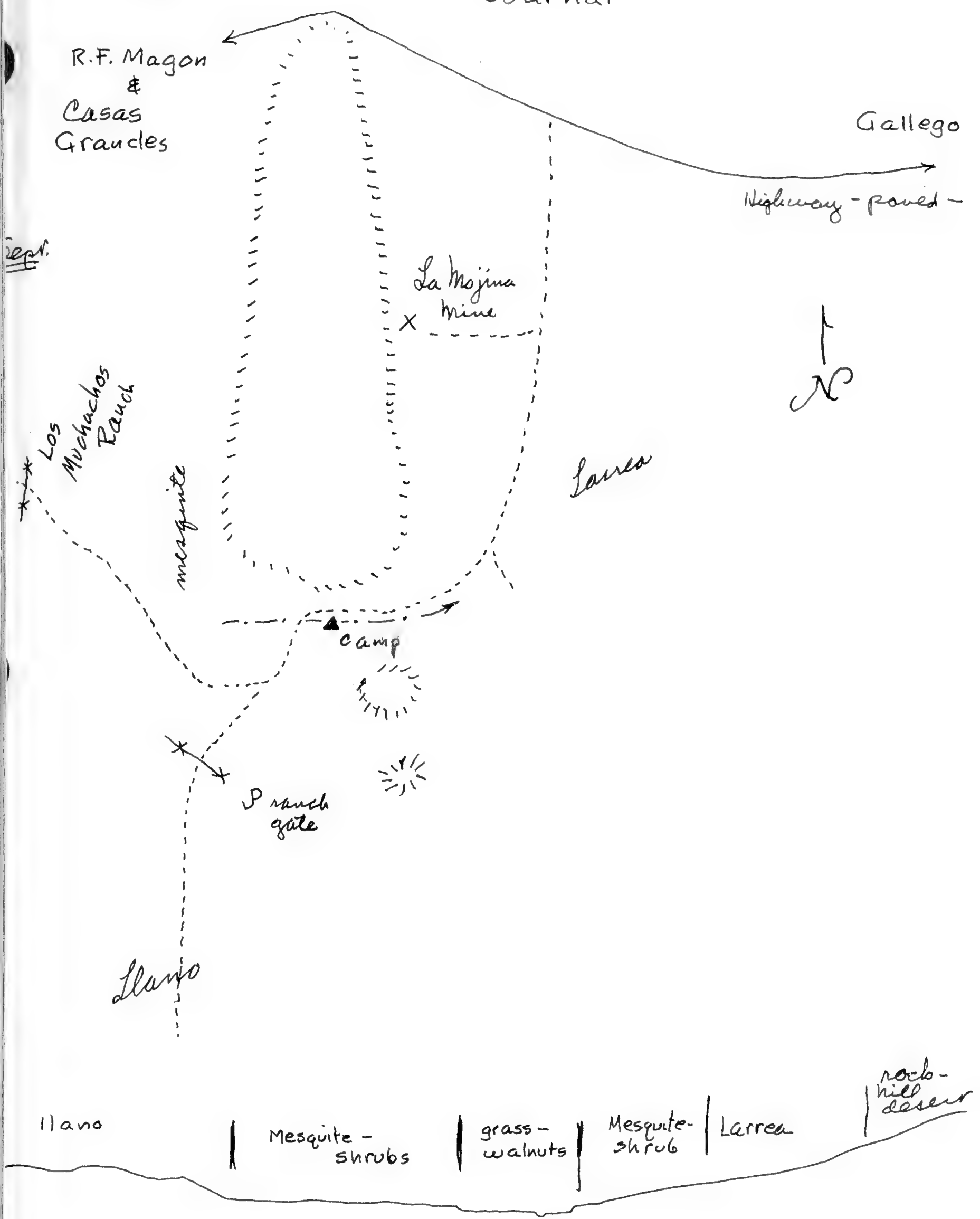
Christman, G. M.
1961

Journal

73

7 Sept. S. edge Sierra Mojina, 5,200 ft., 24 mi. W. Gallego, Chih., Mex.
slowly returned to camp at noon. Saw & collected 3
greenish buntings (2 with 1 shot!), saw more ash-
throated Flycatchers and one roadrunner among
the mesquites in the canyon bottoms near camp.
This a.m. we caught a Screech Owl in one of our
bat nets near camp. By 2 p.m. clouds were
forming over the del Rio to the S. and slowly
moving toward us. I walked down the road
to the S into the very open Sauva - mesquite
flats. Shot an Olive-sided Flycatcher and a Black
throated Gray warbler - hit but couldn't
find a ♂ Lazuli Bunting. Continued S. across
a low hill covered with yaks then to a rolling
stand of Sauva where there were 50± moving
doves, 15 Cassin's Kingbirds and at least 100
Lark Buntings. The latter were feeding on the
ground & were difficult to approach. Shot
several on the wing & retrieved only 2. a ♀ marsh
hawk was foraging on a hillside above me -
yaks & short bushes up to 3 ft. high. a ♀ sparrow
hawk flew by & made one fast pass at the
larger hawk - missed it by several feet. Saw
another roadrunner. House wrens are abundant
in the mesquite tangles. On skinning the
screech owl's stomach contained one mammal-
hind quarters - much hair, no skull. WZ claims
it is a Perognathus hispidus. Raining evening

Journal



Christman, G. M.
1961

Journal

8 Sept

S. edge Sierra Mojina, 5,200 ft., 24 mi. W. Saltillo, Chihuahua, Mex

N99/34



Hill side N. and up hill from camp site - dry exposed slope of typical desert vegetation.



N99/33

Same site; note abundance of forbs.

Quistman, S. M.
1961

Journal

8 Sept. S. edge of Sierra Mojina, 5,200 ft., 24 mi. W. Salgado, Chihuahua, Mex.



Site at Camp, to SE; Tree in foreground = Sapindus
grass in middle ground = Sporobolus airoides saponaria

Journal

8 Sept. S. edge Sierra Molina, 5,200 ft., 24 mi. W. Salgado, Chih., Mexico
a cool overcast day. We will break camp late
this p.m. & go into Ciudad Chihuahua. Bill Lidicker,
Red Johnson, Mike Fontelli & Peter Jordan will return
to Berkeley & Jim Anderson to New Jersey. I shall
fly to Mexico City, and tour Mexico from there.
Yesterday a Ladder-backed Woodpecker was seen in
the open mesquite area S. of camp. Everyone out
for a hat shoot — only one seen & I got it —
a pipitrell

Christman, G.M.

1961

Plant Collection

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1961

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1961

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Truman, J. M.
1961

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Shuman, J. M.
1961

Journal — general notes

The Rio Santa Clara camp offered us ~~three~~ ^{four} habitats:

a) Riparian-milpa communities

The 'natural' situation is open groves of cottonwood & willow with deep grass, forbs and "mule fat" as understory. No gallery forest.

The milpa variation includes the trees as borders to the fields & along the river where gallery forests are present. Forbs and grasses are minimal.

b) open meadows in the shallow river valley.

This is a complex, variable community varying from the cattail & tube lined presas, to wet meadows to lush grasses & forb growth to the deep grass next to the dry hills.

c) Volcanic hills - encinal community

Only on these low rolling hills with their outcrops of dark rock are oaks found (almost entirely "blue oak") with an understory of grasses and forbs related to the:

d) llano - short grass community.

This is the flat to gently rolling range land from the foothills of the Sierra to the River valley. The grasses are usually under 1 ft. high. Extensive areas of this land is farmed by the Mennonites.

man, J. h.
1961

Journal - general notes

The Lower Mesteño camp is a transition from the mountain forests and the foothill encinal.

- a) The deeply entrenched stream, between verticle rock cliffs is near the lower limit for most pines and apparently the prime habitat for several oaks. Grasses & forbs are minor. Many tree species.
- b) Meadows - open, with "blue oak" (minor), Cottonwood & oak (abundant) and pines (most abundant & largest tree anywhere in area). The ground cover varies from short grass & forbs to slightly deeper grass with "Pursia" & a large composite - as two shrub species - in damper sections.
- c.) Xeric woodland of "blue oak", "pinon" & juniper - rocky areas, limited cover of grasses and forbs.

d.) Mesic woodland or Encinal

Christman, G. M.
1961

Journal - general notes

Ojo de Laguna Camp

- a) Mesquite thickets - one dominant semi-tree species, 3 ~~main~~ shrubby species; low (stature & coverage) grasses and forbs. A 100 yd. ecotone with:
- b) Tall grassland of one grass species
- c) meadow elements, in damp areas within the grassland.
- d) The Alamo groves (minor amounts of willow & 3 Lombardi populus).
- e) Milpas

Estuan, J. M.
1961

Journal - general notes

The upper Mesteño camp is complex and difficult to understand.

a) Meadows: of three types:

- 1.) Xeric - gravel, eroded, forbs are dominant, with some "Pursia".
- 2) mesic - with a shrub layer 3 ft high - the non-blooming composite - over 80% cover. Some "Pursia" in drier sites.
- 3) wettest - short forbs and grasses.
(1. is Saw mill flat; 2 is meadow ~~in~~ in front of Zea's Cabaña where canyons meet and 3. is immediately down the main canyon from 2.)

b) Canyon bottom riparian of a diversity of oak and pine, dense, highly variable in species present, their numbers and size, and admixture.

c) Xeric south facing slopes highly variable - dependent probably on drainage & substrate. From open pine - shrub to open oak to rocks and grass.

d) Mesas - The "blue oak" - "Piñon" - grass areas.

e) Pine forests on north facing slopes - blends into every other type of vegetation.

Plant Collection

Sierra del Nido, Chihuahua, Mexico
1961

Plants identified in U.C. Herbarium
(where deposited) by Dr. Helen K. Sharsmith
(blue ball point pen)

Pines (Red ball point - mine) by Wm.^{B.} Critchfield
of the Pacific Southwest Forest & Range
Experiment Station
(address Institute of Forest Genetics, U.S.D.A.,
Placerville, Calif.)

Junipers by Mr. J.P. Perry, Jr. (Rockefeller Fund.)

Oaks identified by Dr. John Tucker, U.C. Davis.

Stuman, J. M.
1961

Plant collection
(continuation of my numbering)

1.

- 5,600 ft
- August 13 5 mi. N. Cerro Campana, Sierra del Nido, Chihuahua
Mexico; mouth of Cañon de Santa Clara; riparian flats.
- ✓81 *Fallugia paradoxa* (D. Don) Endl. "Purshia"
white flowers, shrub 2 1/2 - 4 ft. high, on flats on
stony loam soil
- ✓82 *Baccharis glutinosa* Pers. "mule fat"
abundant shrub, 5 ft + high, near dry stream bed, 2 specimens
- ✓83 *Boerhaavia scabrida* Mart. & Gal. Spec. inadequate
short bushy forb in flat, dry area
- August 16 Sawmill Flat of S. fork of Arroyo Mestero, 9,500 ft, Sierra
del Nido, Chihuahua, Mexico. well drained sandy
loam with rocks - exposed and well drained.
- ✓84 *Xanthocephalum sericeocarpum* Gray ^{very fern-like}
yellow composite, most abundant of all forbs on flat
and exposed areas up canyon.
- ✓85 *Penstemon campanulatus* subsp. *chihuahuensis* Steud. Spec. inadequate
- ✓86 *Lithospermum multiflorum* Torr. Spec. inadequate
- ✓87 *Bromus carinatus* H. & A. Specimen inadequate
- ✓88 *Vicia pulchella* HBK. ^{Scorpioid}
bluish-white flowers, not overly abundant
- ✓89 *Fallugia paradoxa* (D. Don) Endl. "Purshia"
abundant & dominant appearing, white flowers,
shrub up to 3 1/2 ft. high. Next to #84 in abundance.
- ✓90 *Gaura coccinea* (Nutt.) Pursh ^{Stemmy spines}
reddish flowers
- ✓91 *Cirsium* ~~aff. C.~~ [?] *neomexicana* Gray ^{Spec. lacking}
several seen during day; on sand near stream bed, violet color

Irishman, J. M.
1961

Plant Collection

(2)

August 16 Sawmill Flat of S. J. Arago Moreno, 9,500 ft, Sierra del
Nido, Chihuahua, Mexico. All specimens collected here
(84 - 113) have to be considered not only as natives
to a well drained flat, but also as a response
to the recent fire in this entire area - and the long
term succession from a xeric condition after the
lumbering & associated permissions fires to a more
mesic situation - as for example near camp - even
on S. exposures.

✓ 92 *Lepidium* aff. *sordidum* Gray

✓ 93 *Stevia serrata* Cav.

94 *Geranium* cf. *gracile* Engelm. Spec. inadeq. for certain
viol. red petals

95 *Castilleja patritica* Fern. Spec. inadeq.! Why only
abundant everywhere, often 2+ ft. high. on short

leg. → 96 *Rumex*
mexicanus Meisb. spring when "abundant everywhere"?

✓ 97 *Aristida* *intermedia* Dirtn. & Ball ~~Spec. inadeq. for~~

✓ 98 *Monarda pectinata* Nutt. ~~Spec. inadeq. for~~
abundant on flats & near stream, up to 2 ft high
after in clumps & appear as shrubs.

pl. ✓ 99

sprouting shrub in burn area, 2+ ft. high

pl ✓ 100 *Fallugia paradoxa* (D Don) Endell. Specimen sterile,
inadequate

sprouting on burn area at upper end of the flat
shrub several ft. high. dead branches are higher

pl ✓ 101 *Quercus depressipes* Treb.

photo: near stream on edge of extensive burn where the
sprouting has covered vast areas. upper flat area

Stuen, S. M.
1961

Plant Collection

3

- August 16 near head waters of Arroyo Mesteno, 9,500 ft, Sierra del Nido, Chihuahua, Mexico - collection from Sawmill Flat & upper Mesteno Canyon.
- ✓ 102a *Cosmos bipinnatus* Cav. Specimen inadequate
✓ 102b *Commelina* sp. ✓ 102c *Cenothera* ? mexicana
✓ 103a *Viguiera decurrens* Gray Spec. inadequate
✓ 103b *Eryngium* probably *E. sparganophyllum* Hemsl. Spec. inadequate
✓ 103c *Bravoa singuliflora* Wats. Spec. inadequate
✓ 104 *Pinus Chihuahuana* Engelm. with cone
✓ 105 *Pterospora andromedea* Nutt. in shade under pine near stream
✓ 106 *Zephyranthes longifolia* Hemsl. ex char. - Spec. inadequate
near stream beautiful red corolla - with yellow centers
✓ 107 near stream on exposed site, [also on transect #1]
✓ 108 *Agastache ionocalyx* (Rob.) Standl.
✓ 109 *Potentilla thurberi* Gray
✓ 110 *Pinus flexilis* var. *reflexa* Engelm.
cone very large tree near the stream = *Pinus arizonica* (Rob.) Engelm.
✓ 111 *Pinus arizonica* Engelm. pine with cones
✓ 112 Probably *Ceanothus leucodermis* Loesn.
shrub in burn area Sterile shoots! - Spec. inadequate
dupl ✓ 113 *Quercus depressipes* Trell
stunted shrub in burn area

Stuman, S. M.
1961

Plant Collection

4.

16 August Arroyo Mesteño, 9,500 ft., Sierra del Huila, Chihuahua, Mexico

- 114 *Gomphocarpus hypoleucus* A. Gray. Small parts lacking
- ✓ 115 *Lupinus* sp. can't get to species
- ✓ 116 *Allionia linearis* Pursh. Very immature
- ✓ 117 *Macromeria thurberi* (Gray) Mack. (fl. virid. flowers)
- upl 118 *Salix* sp. Sterile. Species unidentifiable "willow"
shrubby willow along stream in upper canyon
low summit ~~at~~ & above camp -
- ✓ 119 *Salix* sp. Sterile. Species unidentifiable "willow"
shrubby near stream lower canyon -
- iptical 120 *Quercus gaubolii* Nutt. "Black Oak"
- dupl. 121 " " " "
- near camp
no acorn, tree never very large, in canyon near stream
- dupl. 122 *Quercus rugosa* Née "Leather Oak"
bottom of stream, scrubby tree, no acorns
- 123 *Quercus fulva* Liebm.
only one tree found, scrubby, 10' high, ^{no acorns} near stream
- upl ✓ 124 *Quercus hypoleucoides* A. Camus
not common, no acorns, near stream

18 August Camp site at Arroyo Mesteño & transect #1; 9,000 ft.

- 125 *Mimosa dyrocarpa* Benth. "mesquite"
reddish flowers -
low shrub, trans. #1, S. exposure, well drained, abundant
- 126 *Cornus stolonifera* Michx. Spic. Sterile "dogwood"
from fir area, deep shade, small tree -
- 127 *Pinus cembroides* Zucc. *P. cembroides*
transect #1, small cones, exposed S. slopes cones small

Thorn, G. M.
1961

Plant Collection

5.

18 August Arraño Madero, 9,000 ft., Sierra del Nido, Chihuahua, Mexico

128 *Arbutus arizonica* (Gray) Sarg. "madroño"

transect #3, mesa, exposed, small tree, no flowers

129 *Cercocarpus breviflorus* Gray "cercocarpus"

transect #1, #5. exposure, well drained, not numerous

130 prob. *Juniperus deppeana* Steud. "alligator bark juniper"
exposed slope on trans. #2 (near) checked bark!

131 *Juniperus deppeana* var. *robusta* ^{Martinez} "shear bark juniper"
trans. #2 & #3

132 *Ceanothus huichaguarare* Loesn.

camp area, trans. #1, exposed flat near stream, shrub 2' tall

133 *Salix* sp. Sterile, sp. unidentifiable } "P. Chihuahua"

134 foliage *P. teocote* Schlott Cham. — ^{not} *Ceanothus* sp.

camp-tall (12'+) slim tree near stream "willow"

135 *Salix* sp. Sterile, species unidentifiable
tall, round tree (35') in meadow

136 *Raccharis glutinosa* Pers. Seed fl. material for det.

Same as 144, 153, also sterile, + 82 - fertile
the most prominent plant in meadow under
the Calaña; leafy shrub 3' high, no flowers, seed stalks

✓ 137 *Pinus* *teocote* or *P. chihuahua* "P. cembraoides"
transect #3 not *P. cembraoides*

21 Aug. ✓ 138 *Arctostaphylos pungens* HBK. manzanita
side canyon to SW - one of the few living individuals found

139 *Quercus hypoleucoides*
side canyon to SW - tall tree, shaded canyon, ^{acorns} no acorns

140 *Quercus depressipes*
exposed hillside opposite Calaña - shrub 2 1/2' tall - ^{sale} cones.

Estman, G. M.
1961

6.

Plant Collection

- 21 August Arroyo Huestano, 9,000 ft., Sierra del Hido, Chihuahua, Mexico
dupl 141 *Quercus hypoleucoides* oak
sprouts from holly leaved oak shrub N mesa -
- dupl ✓ 142 *Quercus hypoleucoides* "hollyleaved Oak"
N mesa, tall tree - trans. #2 no acorns -
- ✓ 143 *Muhlenbergia* sp. (loose top); *Aristida, orcuttiana* ^{insect (bottom)} grass -
transect #2 - 2 sps. per plot one ^{both in ad. specimens} ~~one~~ ^{one} ~~specimen~~ ^{specimen}
- ✓ 144 *Baccharis* sp. Sterile, species unidentifiable
But probably a sterile shoot of *B. glandulosa* - rec #82
meadow
- 145 *Quercus rugosa* leather oak
side canyon, tree
- 146 *Pinus arizonica* Engelm. pine
mesa

Christman, G. W.
1961

Plant Collection

7

23 August Lower Arroyo Mesteño, 7,800 ft, Sierra del Hielo, Chihuahua, Mexico.

✓ 147 *Viguiera cordifolia* Gray immature
abundant in same area as camp.

✓ 148 *Fraxinus papillosa* Lingels. *velutina* Torr. (cf. *papillosa*) "ash"
prominent tree along stream [return to G.M.C.]

upl ✓ 149 *Quercus hypoleucoides* "Tan bark oak"
tree in canyon, dark bark, no acorns

upl ✓ 150 *Quercus rugosa* "leather oak"
most abundant tree in canyon

✓ 151 *Mimosa dysocarpa* Benth. Specimen fragmentary "mesquite"
on dry mesas as small bush

✓ 152 *Salix* sp. Sterile, species unidentifiable in flower
in canyon

✓ 153 *Baccharis* sp. Sterile, species unidentifiable
But probably *B. glutinosa* - det #82. ^{abundant}
shrub 3± ft high in meadow - same as at upper camp

✓ 154 *Pinus chihuahuana* Engelm. "fill pine"

✓ 155 *Lupinus* ^{sp?} ~~*texensis* Wats.~~ lupine

meadow, shrub. No shrub lupines reported in
Stander, Trees & Shrubs of Mexico. } spec. inadequate
✓ 156 *Lithospermum multiflorum* Torr. } from transects
(HBK.)

✓ 157 *Bouteloua gracilis* Lag. ex Steud. } area
Specimen inadequate

✓ 159 *Pinus arizonica* pine.
3 long needles, small cones

Christman, G. W.
1961

Plant Collection

8

23 August ^{Arroyo} Lauers, Mesteño, 7,800 ft., Sierra del Nido, Chihuahua,
Mexico.

- ✓ 159 *Aristida* aff. *laxa* Cav.
- ✓ 160 *Aegopogon* *cenchrroides* H. & B.
- ✓ 161 *Cyperus* *schweinitzii* Torr.
- ✓ 162 *Panicum* *bulbosum* HBK.
- ✓ 163 *Piptochaetium* *limbratum* (HBK.) Hitchc.
- ✓ 164 *Erigeron* *strigosus* Muhl. ex Willd.
- ✓ 165 *Plantago* *mexicana* Link ? *Plantago*
- ✓ 166 *Lycurus* *phleoides* HBK.
- ✓ 167 *Elyonurus* *barbiculmis* Hack.
- ✓ 168 *Elyonurus* *barbiculmis* Hack.
- ✓ 169 *Bouteloua* *hirsuta* Lag.
- ✓ 170 *Muhlenbergia* *emersleyi* Vasey
- ✓ 171 *Gutierrezia* *sarcothrae* (Pursh) Britt. & Rusby
shrub

Christman, J. L.
1961

Plant Collection

9

23 Aug. Lower Arroyo Mesteño, 7800 ft., Sierra deluido, Chihuahua,
Mexico

✓ 172 prob. *Juniper deppeana* group, var. ^{zacatecensis Martínez}
? ~~tanacetifolia~~

✓ 173 *Pinus engelmannii* Carr. Pine
large needles; near camp

✓ 174 *Pinus chihuahuana* Engelm. Pine
small cone; 2-3 small n. - ~~field~~ pine - ?

✓ 175 *Juniperus deppeana* var. *robusta* Martínez

dupl ✓ 176 *Quercus rugosa* "leatherleaf oak"
about camp, large trees

dupl ✓ 177 *Quercus hypoleucoides* "tanbark?"

dupl ✓ 178 *Quercus grisea*

pl. ✓ 179 *Quercus emoryi*

pl. ✓ 180 *Quercus emoryi*

181 *Pinus chihuahuana* Engelm. Pine

Estuán, J. M.
1961

Plant Collection

10

- 28 August 1 mi. S., 1/2 mi. E. Santa Clara, Rio Santa Clara, 6,100 ft.,
Chihuahua, Mexico Riparian habitat near the river
- 182 Sterile - unidentifiable (not)
- 183 *Populus* ^{?arizonica} ^{?wislizenii} Sterile Need fruiting material
large tree on edge of meadow, near milpa
- 184 *Salix* sp. Sterile, species unidentifiable now
- 185 *Ambrosia psilostachya* DC. Spec. lacks transverse
tall forb-shrub
- 186 *Salix* sp. Sterile, species unidentifiable now
- 187 *Baccharis glutinosa* Pers. multi-stemmed
5 ft + shrub along the river, a dominant on drier sites
- 188 *Polygonum mexicanum* Small
forb with pink flower head, solid stands in damp areas
marshy area, 1/2 mi. N. of meadow near camp. Plants
tend to be in near pure stands. Much variation & in
species-stands over the area with blending into
meadow; slight elevational changes noticeably ^{alters} ~~change~~
the species present - water level of prime importance.
- 189 *Scirpus* ?*validus* Vahl Spec. in ad. for sp. det.
- 190 *Scirpus* ?*validus* Vahl Spec. in ad. for sp. det.
- 191 *Scirpus* ?*validus* Vahl Spec. in ad. for sp. det.
- 192 *Ranunculus macranthus* Scheele adequate
- 193
- V 194 *Panicum obtusum* HBh. Spec. in ad. for sp. det.
- 195 *Muhlenbergia mundula* L. M. Jtn.

Johnson, G. L.
1961

Plant Collection

11.

- 28 August 1 mi. S, 1/2 mi. E, Santa Clara, 6,100 ft., Rio Santa Clara, Chihuahua,
Mexico. meadow near camp, blends into the marsh
area and into the llano area.
- 196 Sterile legume. Unidentifiable.
- 197 Echinochloa crus-galli (L.) Beauv. var. grac
grass
- 198 Bidens heterophylla Ort.
one of the main dominants in ^{yellow flower} meadow - drier sites
- 199 Panicum obtusum HBK. grass
Specimen inadequate - no basal parts.
- 200 Setaria ? lutescens (Link.) Hubb.
Specimen inadequate for species ident.
- 201 Echinochloa crus-galli (L.) Beauv. var.
2 1/2 - 3 ft. tall
- 202 Bouteloua cf. curtipendula. (Michx.) Torr. Specimen inadequate
up to 1 ft. tall
- 203 Bouteloua sp. Spec. inad. for det. grass
Probably B. gracilis
- 204 Ambrosia psilostachya DC. Specimen inadequate
- 205 Amaranthus palmeri S. Wats. Spec. inadeg.
Group C
- 206 Gnaphalium wrightii Gray
tall shr
- 207 Euphorbia hyssopifolia L. forb.
- 208 Anoda lavaterioides Medic. Spec. inadeg.
- 209 Trifolium amabile HBK.

Christman, J. L.
1961

12.

Plant Collection

28 August 1 mi. S, 1/2 mi. E, Santa Clara, 6,100 ft., Rio Santa Clara, Chihuahua

Mexico. meadow area

210 *Lepidium sordidum* Gray foul

211 *Andropogon barbinodis* Lag.
tall grass

212 Grass unidentifiable - sterile, no spikelets remaining.
tall grass, the yellowish, dry seed heads give large areas the
aspect of a dominant, which it probably is.

Llano area; low rolling hills, rocky to clay loam,
reddish; blends into the low volcanic hills

213 *Chloris ~~submarina~~ virgata* Swartz Specimen inadequate

214 *Bouteloua hirsuta* Lag. Specimen inadequate.
one of the dominant

215 *Lycurus phleoides* HBK. Specimen inadequate.

216 *Bouteloua* cf. *curtipendula* (Michx.) Torr. ^{Specimen} inadequate

217 *Lycurus phleoides* HBK. Specimen inadequate

218 *Eragrostis arida* Hitchc.

219 *Aristida barbata* Fourn.

220 *Bouteloua* cf. *curtipendula* (Michx.) Torr.

221 *Bouteloua chondrosioides* (HBK.) Benth. ex Wats.

222 *Bouteloua* cf. *curtipendula* (Michx.) Torr.

223 *Lycurus phleoides* HBK. Specimen inadequate

224 *Eragrostis trichocolea* Hack. Specimen inadequate

225 *Aristida intermedia* Scribn. & Ball

226 *Coryza sophiaefolia* HBK. Spec. too skimpy

227 *Haplappus gracilis* (Nutt.) Gray

228 *Cryptantha albida* (HBK.) Johnston (C. *crinosa*)

Christman, S. W.
1961

13.

Plant Collection

28 August 1 mi. S, 1/2 mi. E, Santa Clara, 6,100 ft., Rio Santa Clara, Chihuahua, Mex.

- 229 Legume? Sterile. Unidentifiable. Specimen inadequate
a - *Wippia wrightii* Gray
230 b - *Parthenium incanum* HBK. Specimen inadequate
c - *Gomphrena nitida* Rothr. Specimen inadequate
231 *Ipomopsis (Eilia) pringlei* (Gray) W. Grant Spec. indig.
232 *Rhus trilobata* Nutt. Sterile

current like shrub from hills, not abundant

- 233 *Andropogon barbinodis* Lag.

grass from hills not abundant

- 234 *Quercus emoryi*

oak from hills, a new species

- 235 *Quercus emoryi*

oak

- 236 *Quercus grisea*

"Blue oak"

- 237 *Mimosa dysocarpa* Benth. Spec. inadequate

"mesquite" from llano, procumbent shrub

meadow

- 238 *Bouteloua gracilis* (HBK.) Lag. ex Steud. Specimen inadequate
grass

- 239 *Bouteloua* sp. Inadequate for det. "

- 240 *Pectaria latescens* (Wieg.) Hook. Specimen for spec. ident.

- 241 *Bouteloua* ^{cf.} *curtipendula* (Michx.) Torr. "

- 242 *Chloris submutica* HBK. Specimen inadequate

- 243 *Andropogon ascheroideus* Swartz

- 244 *Amaranthus palmeri* S. Wats. Sterile

- 245 *Ambrosia psilostachya* DC. Specimen inadequate

- 246 *Xanthocephalum gymnospermoides* Benth. & Hook.

- 247 *Tagetes lucida* Cav.

1961

Plant Collection

28 August 1 mi. S, 1/2 mi. E, Santa Clara, 6,100 ft., Rio Santa Clara, Chihuahua, Mexico

248 *Eriogonum atrorubens* Engelm. Spec. inadequate.

249 *Acalypha lindheimeri* Muell. Arg.

4 September Area of old camp "5 mi. N Cerro Campana", mouth Canon de Santa Clara, Chihuahua, Mexico

250 *Muhlenbergia* (Emersley?) Specimen inadequate

251 *Anuropogon barbinodis* Lag. Specimen inadequate

252 *Aristida orcuttiana* Vasey

253 *Aristida* ? *barbata* Fourn. Spec. inadeq. for sp. ident.

254 *Bouteloua* cf. *curtipendula* (Michx.) Torr. Specimen inadequate

255 *Eragrostis lugens* Nees

256 *Aristida orcuttiana* Vasey Specimen inadequate

257 *Heteropogon contortus* (L.) Beauv. ex Roem. & Schult.

258 *Bouteloua hirsuta* Lag. Spec. inadequate.

259 *Garrya wrightii* Torr. Spec. not adequate.

shrub

260 *Dalea* (*Parosela*) sp. Sterile, impossible to det. to sp.
a mesquite on flats

261 *Mimosa biuncifera* Benth. Spec. not adequate.
mesquite small pods on flats

262 *Cassia leptadenia* Greenm. Spec. inadequate
small 6" mesquite on hills

263 *Nolina* sp. Spec. too fragmentary to det. to species
"sotal"

264 *Fraxinus velutina* Torr.

ash on bottom area

1961

Plant Collection

4 August mouth of Canon de Santa Clara, 5,600 ft, 5 mi. N Cerro CampanaChihuahua, Mexico265 *Chilopsis linearis* (Cav.) Sweet Spec. in bag
"desert willow"266 *Salix taxifolia* HBK.

Kasson's wood

267 Sterile unidentifiable

268 Sterile unidentifiable

these 2 shrubs (2 ft high) are dominants on the
llano near "La Parrita"269 *Artemisia ludoviciana* subsp. ^{very immature} *albula* (Woot.) Keck270 *Croton terrestris* ^{Too young to be sure.} *prostratus* (Pursh) Britt. & Rusbythese 2 shrubs form a bushy aspect to
parts of the N facing canyon slope; rocky.271 *Quercus arizonica*272 *emoryi*

273 "

274 "

275 "

276 *arizonica*

? Blue oak

277 "

278 "

279 "

280 "

Blue oak

281 "

282 "

283 "

1961

Plant Collection

5 Sept. Ojo de Laguna, 5,100 ft., 25 mi. S Salgado, Chihuahua, Mexico

284 Sporobolus cryptandrus (Torr.) Gray

The most prominent ^{hunch} grass in the dry meadow
- a dominant

285 Bouteloua barbata Lag. abundant

286 Bouteloua aristidoides (HBK.) Griseb.

These 2 small grasses from dry mesquite area

287 Sporobolus near cryptandrus. Inadequate ^{material} hunting
hunches & clumps on edge of mesquite area288 Setaria verticillata (L.) Beauv. bristles not retrose
grass from damp meadow289 Distichlis spicata (L.) Greene var. stricta (Gray) Scribn.
(meadow)
minor grass in drier grassland; not abundantWet areas near typha-ponds

290 Juncus ? mexicanus Willd. Spec. inad. for sp. det.

291 Juncus ? nodosus L. Spec. inad. for sp. det.

292 Cyperus ? diandrus Torr. Spec. inad. for sp. det.

293 Baileya multiradiata A. & G. Specimen skippy
fell from mesquite patch294 Prosopis juliflora var. glandulosa (Torr.) Cockrell ^{spec. in adq.}
most abundant mesquite; long pod295 Rhamnaceae? Sterile scrub Unidentifiable
thorn shrub from mesquite area, ^{not} abundant296 Unidentifiable legume. Need flowers
^{small leaves} second mesquite in same place; flat, inflated ^{dark brown} pods297 Mimosa biuncifera Benth. specimen inadequate
abundant small mesquite; small leaves & pods

Gregg

Estuán, G. M.
1961

Plant Collection

17.

8 Sept. Sedgwick Mesa Mojave, 5,200 ft., 24 mi. W. Gallego, Chihuahua
Mexico

- 298 Very immature. Unidentifiable.
tall shrub (4-5 ft.) in grassy area in lowlands
- 299 *Sporobolus ~~airoides~~ airoides* (Torr.) Torr.
tall grass in lowlands, in bunches 5 ft tall, dominant
- 300 *Hippia* cf. *ligustrina* (Lag.) Britt.
shrub in dampish, shaded walnut riparian
- 301 *Panicum* sp. Specimen inadequate, not identifiable ^{species}
lush grass from damp shaded walnut area
- 302 ? *Sapindus saponaria* L. Sterile
~~walnut~~ Probably a sterile shoot of the following
- 303 *Sapindus saponaria* L.
~~walnut~~
- 304 *Aristida arizonica* Vasey
grasses from gravel-clay llano-shrub area
- 305 *Atriplex canescens* (Pursh) Nutt.
abundant shrub from llano-shrub area
- 306 *Beutelia barbata* Lag.
dominant grass from short grass area
- 307 *Muhlenbergia porteri* Scribn.
grass from gravel hillside
- 308 *Ayenia microphylla* Gray
short forb-shrub from gravel hillside
- 309 *Cassia wislizeni* Gray
abundant shrub from fans & hillside, bright
yellow flowers & long thin dark pods.

Christman, S. M.
1961

Plant Collection

18.

8 Sept. S. edge of Sierra Mojuna, 5200 ft, 24 mi. W. Gallegos
Chihuahua, Mexico.

310 *Enneapogon desvauxii* Beauv.

grass from dry desert areas

311 *Abutilon malacum* Wats. Spec. inadeq. ^{Basal?} part?
fesh, small yellow flowers from dry exposed hills

312 *Allionia incarnata* L. Spec. inadeq.

procreant fesh, males flowers, dry hillsides

313 *Hippia wrightii* Gray

semi-dominant shrub from Larrea area

314 *Larrea divaricata* Cav. Spec. Inadequate

315 *Parthenium incanum* HBK.

shrub from Larrea area

316 *Compositae* Sterile. unidentifiable

fesh from desert-Larrea

317 *Fouquieria splendens* Engelm. Sterile, inadeq.

Opuntia from dry hillside N. of camp

318 *Eysenhardtia spinosa* Engelm. Spec. inadequate

~~a mesquite~~

319 *Tridens pulchellus* (L.) (HBK.) Hitchc.

grass from dry hillside

320

shrub from rocky-slope above camp

Christman, G.M.

1969

catalogue, #1202-CH.

Journal

Plant Notes

Mexico

Christman, G.
1969

Catalogue

3 July 1969

Lloron

Arroyo del Alamo, Lea Ranch, Sierra del Nido, Chihuahua

1202

♀ ^{sh. n.} oss. Sitta carolinensis

16 gm

9 July 1969

Rio Santa Clara, 1/2 mi. E, 1 mi. S. Santa Clara, Chihuahua

1203

turtle

1204

"

Wistner, G. M.
1969

Journal

25 June

Ojo Laguna, Chihuahua, Mexico, I arrived by plane at 1:45 p.m. (RMT) from Juarez (-El Paso) squared away business, after accidentally running into Koford. Left Ciudad Chihuahua & proceeded north on Highway 45. Noted many ravens on fence posts and flying. Grackles in town. Many Gnathypops macrodon. Several ? sp. of large kingbird. Many sections along the drive up have been burned recently. What appeared to be short Yucca ^{due} ^{seen} never in fruit and the familiar one from last trip - either a Holcus or a Dasylirion. Saw a Swainson Hawk dive on to the roadside. Got a good look - white under part & a slate gray band across the upper breast. The Prosopis along the road was green and a few had long green pods. We were looking for the Ojo Laguna turn off - opposite the Laguna de Ensenadas. The first one (from S.) ran into a locked gate. It had a new cattle watering device (concrete) next to a fence S. of road. We skipped the next and took the last one which had some wagon tracks, eventually we got to the Gutierrez ranch (this entrance off the highway has a fence extending east N. of the track. Sr. Gutierrez looked the same as in 1961 - and the same younger daughter. We set up camp in a mesquite thicket a hundred yards from the

Christman, Jim
1969

2

Journal

25 June Ojo Laguna, Chihuahua, Mexico Camp site in 1961. As elsewhere there are many swallows - many with short tails - at least probably Barn Swallows. Saw a ♂ Belted Oriole in cottonwood trees. Saw 5 hilldeer flying together; also two on ground in a boggy area - ~~the~~ calling loudly and running about. A sapling (cottonwood?) is a sang perch for a ♂ redwinged blackbird. Heard & saw several meadowlarks - "^{western} our song". There are several small areas of open shallow water in the Sporobolus meadow. Mourning Doves also coming in to drink. Toward dusk saw a single night hawk - several times. Also, heard the gurring noise I associate with Chordeiles actipennis, further all times except one (told 6) it was within 3 feet of the ground. The day has been hot and windy (Last night in El Paso at 7 p.m. - 30 M.P.H. and 94°F.) After night fall quiet or gentle breeze, clear with a 3/4 moon.

26 June Out at ^{6:55} ~~about~~ p.m. as I walked on to the Sporobolus meadow two long-billed curlews flew over head calling and circling - had a good look at them. Saw in a mesquite what appeared to be a Dendroica scaberris, ^{and an} unidentified tanager. Many mockingbirds and meadowlarks.

Christman, G.
1969

Journal

3

26 June

Ojo Laguna, Chihuahua, Mexico. Saw Phoebe
about old buildings. Lots of Western Kingbird.
Barn Swallows nest on rafters in bldg. —
no feces. another nest in another bldg. again
no feces. In a clump of 9 medium sized
cottonwoods & three willows saw:
2 bullock Orioles, 2 Vermilion Flycatchers
(one small one in addition marked like
♀, except no orange tip areas on venter.)
2 doves. (↑ was foraging for itself.). A bob-
tailed shrike and an aradist. 2 turkey
vultures. Over Gutierrez house, to small
pond: (in trees above) Blue Grosbeak and
Orchard Oriole, heard white-throated
Swifts. ~~No~~ Cassin Kingbird. One road out saw
juv. phrylosoma. Out on to highway 73119
onto main highway. Catclaw here is more
like a small tree. Saw a roadrunner
with something in its bill — George caught
it & it dropped a small cotton-tail. Lots
of mockingbirds. scale quail seen in the
following numbers: 3+, 1, 2, 2, 2, 2, 2, 1, 1, 1, 3,
2, 1.

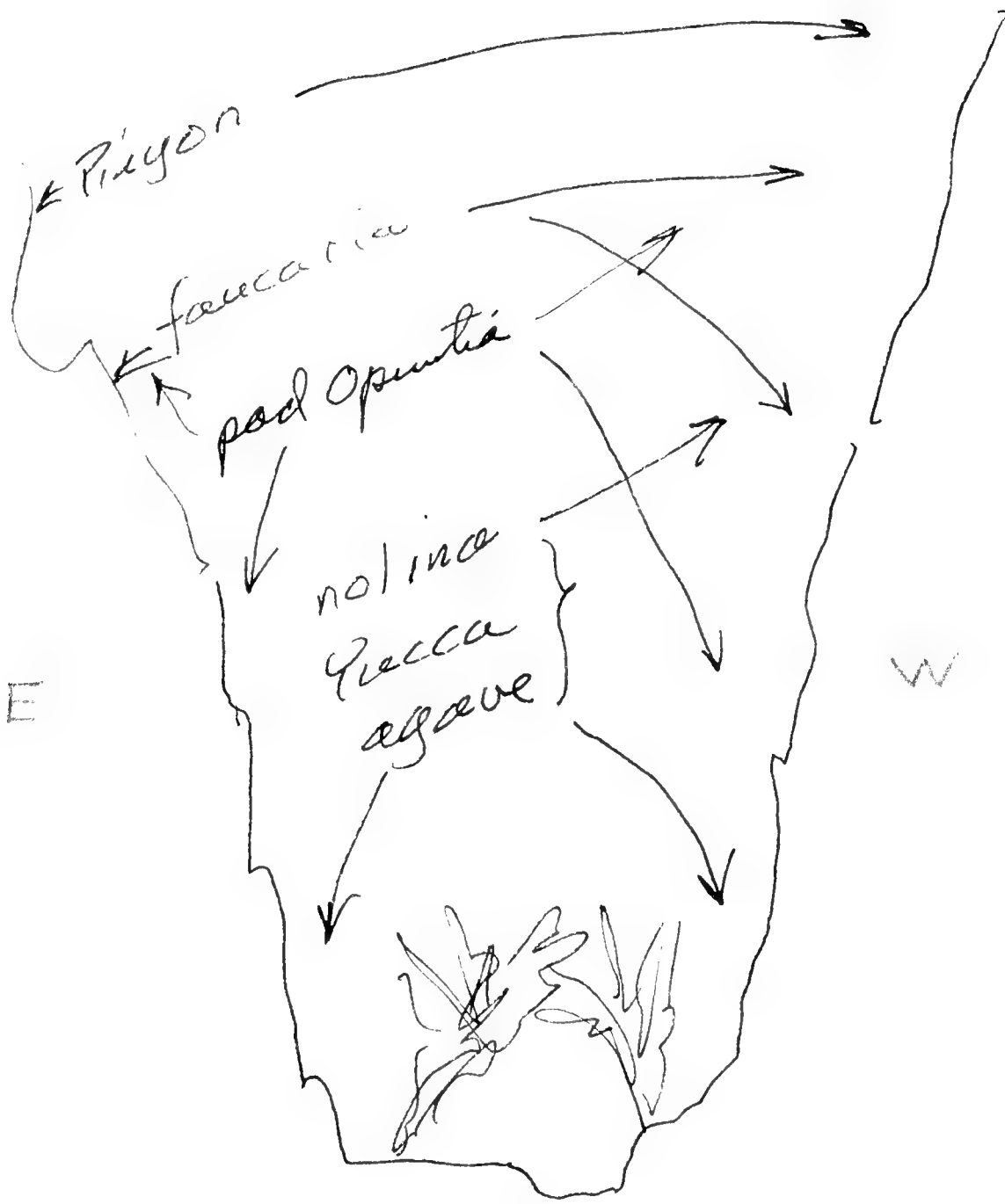
From the road where it leaves the highway
to a region where two rocky ranges almost
join there are many shrubs, with cacti
and much grass. This I would rate as
a grassland which due to misuse has

Christman, G.
1969

4

Journal

26 June From Rancho Providencia to Rancho del Hido
The closer to " " there are more of the round
stemmed & pad Opuntia. The former have
shrunken fruits (yellowish) and dried flowers
(reddish) Black-throated Sparrows are abundant
of Yuccas — the hill side is dotted with
Nolina, Yucca, and Agave. Will call round
stemmed Opuntia "cholla" (O.)
grass on hill side also. Some Agave are in
flower. Ocotilla also on hill side. A shrubby
plant of longish leaves & light colored tubular
flowers (plant 6' high). cf. # 326.
Rancho La Providencia is in a flat area between
two ranges and severely overgrazed. Surrounded
by a 10' adobe wall painted white with red
trim. Groves of cottonwood & willow
and a kind of cypress. Goat-tailed Squirrels
were very obvious. House Finches with young,
Barn Swallows with nests, both western
and Cassin Kingbirds with nests and a few
Mockingbirds. A western king bird nest 25'
feet up in an oak (broad leaved 3' from crown,
very exposed. Bird on nest.
Headed west toward the del Hido Rancho
Immediately west of the ranch was an extensive
burn — indeed there were three huge ones.
At 7 mi west of the ranch saw our first
Sparrow Hawk — saw 4 or 5 to del Hido



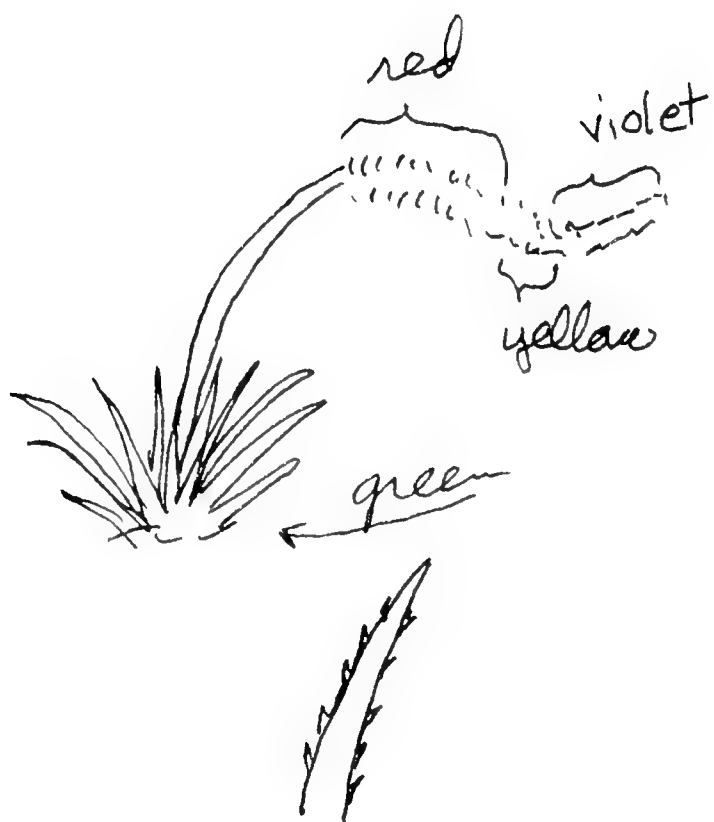
almost due S.

Christman
1969

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Journal

26 June To Rancho del Vedo, Chilpancingo, Mexico Reached
a few big oaks & a few scrubby things: acorn
woodpeckers. Then into a pure grassland, and
more ~~stam. opuntia~~. Then to the arroyo del Vedo - small
oaks that extend out onto the ~~up~~ llano. Oh, along
the way saw meadowlarks, Horned Larks and
one Cactus wren which flew out of a ~~stam. opuntia~~
- that they young getting feathers, but with some
down. A few of the pad opuntias had yellow
flowers. Oaks & 2 apuntias!
Stopped at the ranch house - at a small
lake at the windmill many Cliff Swallows
Burros & pigs - very rundown. Went up
Cañon de la Varas. The walls of the canyon are
towering, and varied - the base color is red-
ish, with lots of lichen, etc. at the camp -
under small oaks - no pines. This Canyon is not
like any other one I've seen down here. On the
walls - both - even 1 1/2 mi. up canyon the
Foucarina, ~~Yucca~~, Agave, pad apuntia all
the way. There are a few P. cantharoides up the
canyon walls, but very minor - minus 2%.
The dense oaks, ash & cedar are between the
almost vertical walls of the canyon. Little
tules. There is, I believe, a yucca which
has not flowered. Dasylirion is I believe
abundant - one is highly colorful, and.
Catclaw goes up far up the Canyon but



Christman
1969

Journal

6

26 June Cañon de la Varas, Chihuahua, Mexico
only in the most exposed area; $\frac{1}{2}$ way up in
floor open wide enough - then on walls.
The "~~Death~~ ^{Golla}" is not even far enough as
camp.

Up Canyon we heard and saw a few parrots
then many moved down canyon in groups:
2, 2, 3, 2, 4, 1; a half hour later 26 flew over
wheeling overhead calling loudly. About
half way up we noticed a number of Tikandsia
on rocks, trees, etc. took samples.

There is a minor amount of willows, and
a madroño. Cypress and ash always
near the stream bed, as well as the large
and silver leaved oaks. a Rufous-sided
Towhee singing in a oak - call: sawee-
sweet - seeee -

27 June up Cañon de Higuera, Rancho del Tido, Chihuahua
Started up canyon, it is much more open than
C. d. l. Varas - it goes for about 1 mi. SW. The
S. E. exposure has few cliffs etc. until fairly
far up, 1 mi. The vast majority of the slope
is open of grazed down grass and rock, with
few pinyons and Acacia. There are some
alligator junipers and a few spindly pines
(small cones, persistent cones, needles in 2-3)
do this P. flexilis - ? branches tend to be horizontal
Many scrubby oaks of all ages. In stands

Christman, G. L.
1969

7

Journal

27 June

Cañon del Nigra, Rancho del Nido, Chihuahua, Mex
with young and mature, in all densities.
The dominant oak is uniformly ^(8-10' high) green,
pubescent on both surfaces, entire though
many margins, not bicolor, bark is white
and deeply checked. Patches of Agave parryi ^(no flower stalks) and
clumps of Dasylirion (in fruit). An open flat
rocky with 50% cover. The clumps of bunch
grass are grazed down to the ground, which is
also covered with cow chips. Pinus coulteri
present as an infrequent mature tree, on
exposed sites. Above the flat is an amphitheater
like set of cliffs of stratified layers of sandstone
and buff. Acorn woodpecker, Canyon Wren
calling in descending notes. Chipping Sparrow - 2
in open scrub - not singing, a short billed
thrasher - and ash-throated Flycatchers.
picked several quail - sp.?

photos

This is a low exposed eroded grassland with
many desert elements, which will probably be
different from the west side. Near the
stream bed are more of the same, plus Arbutus
and Dasylirion. Oaks are 5'-10' tall; some with
mistletoe. A few deer droppings - the first I've seen.
Some of the pad aguntias have been cleared
by something with old & new quarrying marks.
Faint band-tailed pigeons flew down canyon about
20' from the ground making a great sound.

Christman
1969

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Journal

27 June

Fresh badger diggings on shaded side of the canyon. Another Chipping Sparrow. An old dried clump of the "snow plant." Have seen no fossils that have not been collected and pressed. 8:40 a. 5 pairs of parrots flew over head to SW calling loudly. About 7 bushy-tits foraging loosely in several piñons. Their call is a high buzz followed by several clear notes. Heard Flicker, white-throated Swifts, more thrashers. Again catclaw gets well up canyon even down near stream bed in exposed situations. A very few seedling pines. Thrasher short curved bill with a faint malay stripe if spots on breast not evident to note. In this canyon with more exposure than C. d. l. Varas the silver Oak is understory near stream bed and a shrub at that. 10:45 walked back to Camp & up. Canyon de la Varas. at 100 yds from camp saw 2 Scelater Chickadees foraging in oaks and flying back & forth from down canyon. Saw one, possibly two Eastern bluebirds high in dead trees & other perches - were shy. Saw no red on back. Lots of ~~the~~ Ash-throated flycatchers and Brown towhees. a chipmunk ran out of a pile of rocks & up an oak trunk 4 feet to inspect me then ran back down - his

Christman
1969

9.

Journal

27 June

stripes were very subtle. The easterly exposure as well as S. has far fewer trees than other exposures. The NW west exposure of Canyon de was thick canopy to canopy - mainly oaks, of a variety of greens. The hill sides with the most exposure are the most open and with the most pinyons. Saw a chipping sparrow foraging in an oak tree 18' up. A tanager - yellow venter, olive above bright yellow throat & forehead - a single "cheep". A bird the size of a tanager was in the top of a dead tree - it appeared almost solid black, bill icterid like but heavier & more conical.

(Two golden eagles soared over, much mottled.)

The upper part of this canyon is so precipitous and rocky it's easy to see why the *Vireo* forms can take this elevation. The degree of exposure varies.

An arizona woodpecker flew by. As I was walking along the path near a dry hillside - a *Peromyscus* like mouse was flushed and ran up hill over rocks. Immediately a Mexican jay flew down to the site where the mouse disappeared, followed by several others with calling -

a *Vireo* I couldn't identify, eye ring, 2 wing bars dull blue above except head which was light as ventral -

Christman
1969

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Journal

27 June

Cañon de Varas, Rancho del Nido
the call: ---. Ash-throated Flycatcher active, along
with a Contopus in early afternoon though
under the canopy.

The lower part of the canyon is broad, thus
open with a broad zone of overlap of the mid-
xeric types. The extremes are on the rocky
cliffs and the riparian. Pinyons appear to be
the most xeric tree; others Foucaia. The mesic
mesic are the cypress & broad leafed oaks, which
at these elevations are stream-side.

A group of 3 Schistocerca Chickadees foraging in
shaded oaks one is darker above with a black
throat, another gray throat and a lighter gray above.
We went down to Rancho del Nido for water
& to check the mine for bats.

Went up the main fork & camped near
an arch in the rock south of the stream bed.
Night a Spotted Owl close in & throughout the
night whip-poor-wills.

28 June

Cañon del, Rancho del Nido Chihuahua, Mex
7: p.m. Just beyond camp saw a non-descript
blue bird in a big oak. A little further saw
a Western blue bird for sure. Perhaps these
that look like easterns are juv. westerns.
Chipmunks and a cotton-tail; also one
painted Red-start, two Rufous-sided towhees
in an oak calling — "whir". more chipmunks.

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Christman, G. M.
1969

11.

Journal

23 June

Acorn woodpeckers, Ash-throated Flycatchers and Mexican jays are the loudest & most obvious.

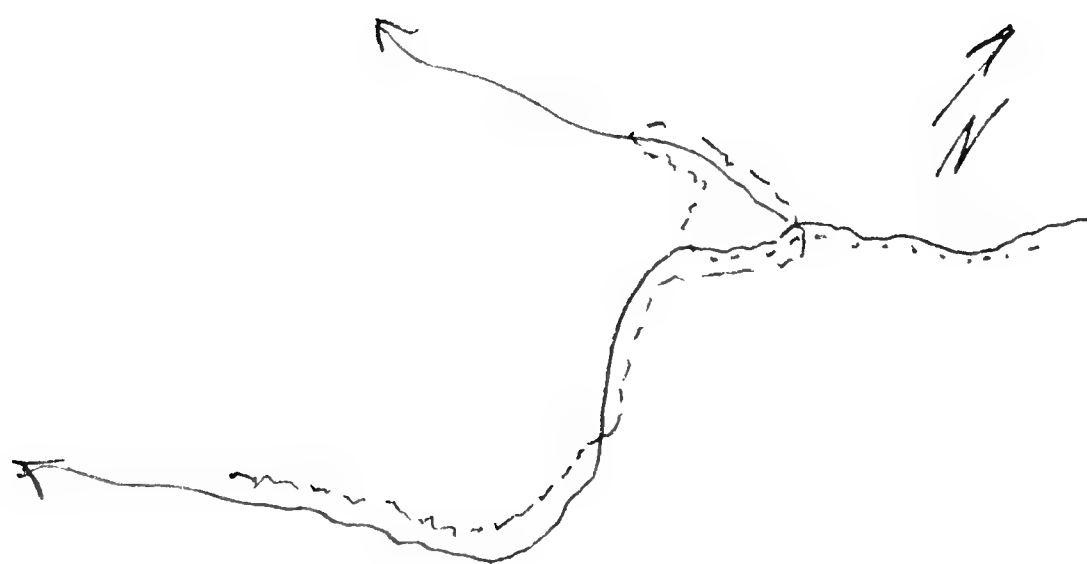
8:05 a.m. onto dry hill side as going up canyon - a huge flowering agave? as pictured before, sun just hitting it when a male & a female Scott Oriole lit on it. And a large dark hummingbird near by in oak - perhaps Rivoli's Hummingbird? The orioles were later working cactus a penjon further up the wall of the canyon. A few of the same cacti seen here as the other canyons. Parrots seen flying & calling: 9 to 5 and 3 pair to NE circling high. More western Kingbirds and sing Rufous-sided towhees.

on Ridge between two forks - photos - went up the right one for a while.

Floristically, this canyon is much like the other two, but is broader and more exposed, and and probably much higher, relative to the others.

There are fewer cypresses, because of the greater exposure and very many more pinus flexilis and much larger. The smaller shiny leaved oaks, pubescent below are more abundant. Red-tailed Hawk sailed past low -

up right hand fork - a pair of tanagers in several told P. flexilis. The ♀ as described before but no black on bill. ♂ Hepatic Tanager. when first seen they had food in



Christman, G. W.
1964

Journal

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28 June

their hills. After seeing me they continued to fly about & were most obnoxious in the tree. They were joined by an imm. Scott Oriole and a western Kingbird.

Saw a small group of bush-tits (none with black masks) in the small oaks, descent up the left fork quite a ways - 2 miles - The first mile is shallow, exposed with scrubby oaks of numerous species all short & then higher up on hill sides were leafless. Few oaks over 10' tall many 5'; grass grazed down to nothing. A western branch is in a deeper canyon with a well developed riparian situation. All species seem to be represented and, indeed, when the walls of the canyon are high and not rock they extend far up the wall and are large. Even the big leaf Oak can develop into a large tree under these situations. The left branch has all the element except Faurcarion, and perhaps catclaw. Higher up saw a Mexican chickadee. Yesterday for the first time there were a few small clouds over the ridge to the west. Today through up canyon winds have been blowing. And clouds were forming by 10 a.m., no huge build up on crests, but they grew & moved NW. By late afternoon they spotty, even E over desert.

istman, Jm.
1969

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Journal

28 June to Cañon de La Madera, Rancho Primavera, Chihuahua, Mex.
All into camp by 5:00 p.m. went up La Varas
to look at & photograph (3) the bear tracks of
the young black bear Erik and George saw a
little earlier. We were surprised that there was
a deep transverse depression across the middle
of the hind paw. Then went down the string of
circular onto the plains of grass, headed north.
Much 'ocotillo' (red flower salt) with oaks.
Saw some scrub jays. Also in grassy areas -
2 pair of Harkness quail one had six
newly hatched young - no feathers. Went as
far as the locked gate below Cañon de Madera
and made camp. Heard one or 2 porcupines, lots of chipmunks.

29 June Cañon de La Madera, Rancho Primavera, Chihuahua
Out at 6:40 a.m. Red-shafted Flicker, cotton-tail, Mexican
jay & cawbirds near camp. From the fence to the
mouth of the canyon is the same short low oak
scrub (shrubs to 6' + and trees at 15'), plus few
pinyons getting relatively dense where canyon
is restricted. The 'silver oak' is already abundant.
N. facing slope thick with oaks. S. facing slope
with 50% cover of small oaks are leafless -
making the pinyons stand out. Deer tracks on road.
Mid-way up canyon a pine comes in & is abundant
small persistent canes 3-4", needles 3 (or even 2) heavily
broad branches - needles in upright clusters, 3-5"
dark bark.

Christman, Glen
1969

14

Journal

29 June Cañon de Madera, Rancho Providencia, Chihuahua, Mex.
Ash also appears relatively low compared to the other canyons. But exposure is different for canyon (narrower than others) is 50 yds. wide here and no grazing so lots of grass. - the tassel shrub is abundant. In general veget. is dense. The hill to the N. is dry, only the pinyon are green and a few Octatilla. Many oaks on the N facing slope & of the tanks are leafless whereas on the canyon bottom things are green except for the grass (high & dry). Arrived at tank at 7:35 p.m. - flushed a doe white-tail deer which went up canyon with a snort & tail up. The pines appear to be one sp. and more and larger up canyon (see photos). Not as many ^{agave} ~~Yucca~~ & Yucca. The plants are more mesic in ~~Grand~~ ^{Grand}. Seen here: Sparrow hawk, lots of Mexican jays & a gold finch of some kind. Dasyglirion in flower, Mexican chickadees, hand-tails, Steller jays and a pair of Hepatic tanagers, Flickers, Rufous-sided towhees, Canyon Wren & ash-throated Flycatchers. There are two tanks a shallow concrete & a large Concrete-metal one - dug now. Signs of many old camps here. Not as many pines as the last camp but denser in overall vegetation - more scrubby oaks as well as more small pines. Oaks on hill sides are dormant. Black-headed Grosbeak calling. General willow & ash clumps near dry stream bed. Few prickly Pear, Cypress, junipers or cacti, etc. like ~~at~~ ⁱⁿ ~~the~~ ^{the} ~~hills~~ ^{hills}. 10:15 leaving camp - saw a white breasted Nuthatch.

Journal

29 June From Cañon de la Madera to Sierra Mojina, Chihuahua, Mex.
Made a small collection of oaks from this canyon: two are important "Encinal Oaks" — 1.) light checked bark, $1\frac{1}{2}$ " pubescent ^{leaves} ~~bark~~, not bicolored; 2.) dark bark with shiny leaves. The former is the dominant at former camps, but shares the role here.
A few clouds at 9:45. Strip of Encinal out onto llano of with little brush, no stem cactacias. Meadow-larks, scrub jays — further down pad open cactacias.
Turned to north. On to Rancho Las Varas: duca doves and Boat-tailed Grackles (The latter seems to depend upon cultivated trees near man's occupations).
North of Las Varas is a grassland, with some catclaw, much mesquite and many sphedra (S. of Varas on llano the Stem cactacia had been cut and piled for burning. It appears that this species doesn't get into the foothills.) We made camp 20 yds from the 1961 camp site. The area has changed — opened into a park — more wood cut out & several dead trees where we shot doves. Also, cattle have been in here quite a bit. And is, at least, a part time culture roost — jays & sparrows. Eric shot a gray screech owl. Heard a brief coyote song — early full moon — very light after walking about saw a small Dipodomys. The tall grass clumps S. of camp were burned over a good sized area. Green sprouts have returned.
From the highway at N almost to the camp is grass — mesquite and only on the alluvial fans is there Larrea.

Christman, J. H.
1966

16.

Journal

30 June

to the Rio Santa Clara from Sierra Mojina, Chihuahua, Mex.
up and out of the S. Mojina camp at 6:45 a.m.
went NE along road and into a broad cul-de-sac
draw. Singing House Finches, Mourning doves,
Rock wrens, Mockingbirds, heard white-winged
dove, 2 (or 3) Red-tailed Hawks. The Larrea here is
green and much of it past-flowering with the
small gray pubescent fruits. The prickly Pear
looks bad here - blue circles of rotund heavy
animal chewing. Indeed, in some places the
Octatillo has been stripped of its bark. Else
where Octatillo is putting out new deep violet
growth - the flowers have fallen leaving the
capsules. Small groups of Black-throated Sparrows
(3,3) Lots of areas of dried grass ^{and} ~~phorbes~~ on slopes.
walked around the mastiff. On 2 mile walk saw
3 blacktailed jackrabbits and one cotton-tail - same
habitat, 2 lizards, no snakes & more Black-throated
Sparrows. Mockingbird imitated a scrub jay.
Larrea only on rocky slopes or alluvial fans near
out on slopes. found a coyote skull. Saw a pair
of Gscaled Quail back at camp at 8:50 p.m. Also, got
a good look at a Yellow-bellied Cuckoo in the
"Walnut" trees. There is an extensive burn on the
foothills & mts. w. of here on flanks of Mesa de Apache.
Left at 9:15 a.m. to Ricardo Flores Mazon - several areas
of Larrea, but not pure stands. Clouds forming everywhere
Hills E. of R.F.M. lots of dry grass, mesquite, yucca & Octatillo.

Christman, G.M.
1969

Journal

30 June

Flores Magon to Santa ^{San} Lorenzo, Chihuahua, Mexico
West of Rio Santa Clara grass with 3' Suaeda and
Yuccas, on stems, in swales. The hills are rolling
some ~~with~~ rather steeply, ^{so} a huge one to NW.
Dawn road toward Santa Clara from R.F. Magon.
Many small farms W of river bed, then road and
then a stone-concrete canal. Along this route
saw Brown-headed cowbird and at 2.3 mi. S. saw
a ♂ & a ♀ phainopepla flying parallel to the road
to a string of small cottonwoods. House Finches
The low hills to the west have both types of agave,
mesquite, grass, (cacti cylindropuntia) Mockingbirds
(In R.F. Magon: duca doves, English Sparrows and
Bear-tailed Grackles) Barn Swallows. The
water ways are covered with willows and
cottonwoods - dead or alive.

at 5 miles S went up a hill to a dam and a
formerly flooded valley - water, down now.
On hills ~~the~~ now - Octillo. On the lake saw
several killdeer and six coots - did not see
the herons the others saw.

The pleasant little town of San Lorenzo -
aside from the fields everything is grazed
down to dirt roads & the indigestible.
The mesquite has been cut back & they
are the only green things on the uplands.

Desert willow again seen in the arroyos
Made camp near to the Rio Santa Clara. Camped 2:15 pm.

Cristina, S.M.
1969

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Journal

30 June
1 July

Rio Santa Clara, 5 mi. S. San Lorenzo, Chihuahua, Mex.

The camp is in an incised bed 75 yds. wide of which 30' is the river - about 10" average depth, with some rapids, etc. Saw: Mourning doves, white-winged Doves, yesterday on 2 occasions Yellow-billed Cuckoo, contapos, Cliff swallows, House finches, Killdeer, ash-throated Flycatchers, Black Phoebe. The vegetation of the river is: Cottonwood, willow predominately, in a few areas desert willow in flower, also "fair number" of "walnut" and several unidentified plants (#).

North of San Lorenzo there are extensive stone fences on the hills west of the ~~river~~ ^{river}. They are 3 stones thick, well clinched with smaller stones and about four feet high. This would indicate an old hacienda and long grazing pressure in the area.

1 July

Sanne set out early and worked up river (to 5.) until 10 a.m. & back to truck. Went almost 1 mi. South.

Brown towhees and Orchard Orioles seen in pairs. Mockingbirds obvious because of calling. Saw two ducks, dark, of mallard type flying & flew over the river - probably Pearl Ducks. A pair of scaled quail. Red-eyed Cowbirds in willows next to the river. 7:20 a.m. Cassin Kingbirds copulating 2 ft. from nest, 40 ft up in a willow over the river. It was within the canopy, but not hidden, one of the birds sat briefly on the nest while the other flew off.

Christman, S. M.
1969

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Journal

¹/₂ July

5 mi. S. of San Lorenzo, Chihuahua, Mex. (S. of R.F. Magon)
Saw a white-breasted Nuthatch. Two ♂ Red-eyed
cowbirds displayed to female in willow, neck feathers
ruffed & head up, bill slightly above the horizontal.
♀ Hairy woodpecker in willow (top branches). ^{Three} ~~One~~
Great Blue Herons flew down stream. 8: a.m. ♀ tanager,
dull yellowish (not as bright as the ones seen before),
light bill, had large insect in bill and was wiping
it on a branch, then flew to a huge cottonwood.
Then a ♂ tanager appeared - bright red - almost
uniform over the body (wings slightly darker, but
not the same bird seen at C. Madera). (not 2-toned
graybill, no mark near eye). Both birds foraging
about in cottonwoods, but always returning to an
especially dense area in the same large cottonwood,
- 60' off the ground. The ♂ after he saw me went to
3 trees before going to the "nest tree" (?). All id. these
as summer tanagers. a red-winged blackbird flew
N high, red epibute shamed well. a Vermillion Flycatcher
foraging from dead branches under a willow - about
10' above ground. ♂ Hairy Woodpecker first seen in
a willow, then large cottonwood - foraging among the
white leafy branches. Then saw a yellow-breasted chat
in a cottonwood, then flew to a thick stand of
desert willow. Followed the chat & when it left
found a nest 5' 10" up in the middle of a dense clump
of desert willow, made of woven grass & tight with a
small cup. Found one fledgling in the nest, on removal

Christman, S M
1969

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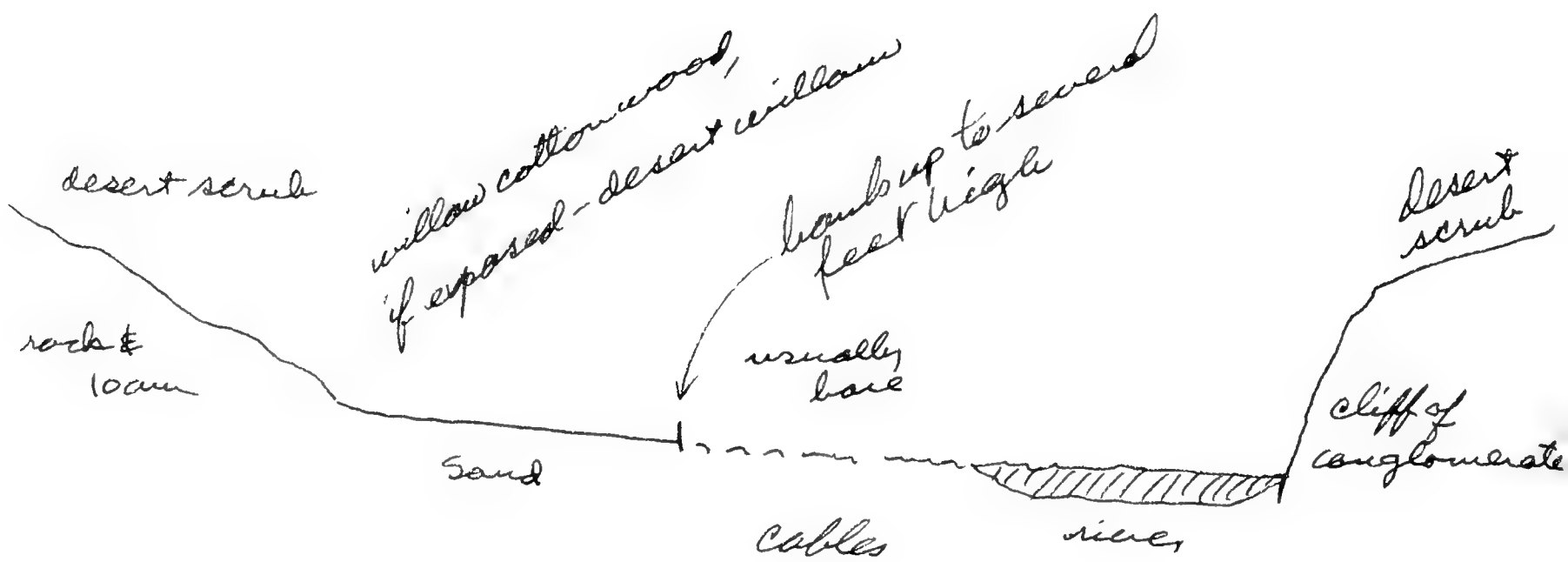
Journal

¹/₂ July

5 mi. S. of San Lorenzo, Chihuahua, Mexico.

it was fully feathered, filled the nest cup, was a dark dull black with natal down on head & back. I took it to be a juv. cowbird. It was replaced, but with much calling it climbed from the nest and slowly descended ~~from~~^{to} the ground where it perched on a stem 2" off ground & started calling at 5 ± intervals. In about 10 minutes the chat returned low thru the tangle & was on branches at ground level 8' from young which fluttered to it and the chat took it away & up into a clump 6' from nest tree.

Black throated Sparrows appeared in catclaw near river with birds I presumed to be their young — light blue gray above, light below, white throat & white superciliary line. 2 Verdins in a clump of desert willows — near by several starts at nests at end of branches. 7 dark ducks flew by. ♀ Blue Grosbeak, 3+ killdeer calling & flying about rocky ~~bank~~ shores of quick water. A Colony of Cliff Swallows are building nests on a 20' cliff over the river. at least 30 nests. They appear to be building in clusters at varying heights above the water. a feature I have not seen before: the birds are clinging in bunches near completed or nearly completed nests, with much coming and goings & circling. It appeared that the perched birds were often replaced. Is it possible that a mate is 'holding a territory' while its mate is after mud? The nests were touch each other.



cliffs on both W & E banks

Struan, G. M.
1969

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Journal

¹
~~2~~ July

5 mi. S. San Lorenzo,

Saw two birds that appeared to be Am. Goldfinch. (First clouds at 9:15 a.m.). Saw two more herons. An acorn Woodpecker in dense foliage makes a nasal "cwa" several times, very unlike a woodpecker call, then it works this call into its normal call. This single individual after calling thusly several times flew 100 yds. S. This bird is obvious but not abundant along this river. House Finches, two Brown towhees, one band-tailed pigeon flying with 2 white-winged doves at 9:40 a.m. a large dark bird went sailing N through the tree tops, with a flap, flap, soar type of flight. Got only a lateral view of it. The wings were black with small (or thin) white bands and the only distinctive mark was a white band on the rump area; when last seen it flying very low —

General Contopus and a ♂ Black-headed Grosbeak.

Saw a pair of ladder-back woodpeckers in area.

Lark Sparrows in exposed sandy areas with ^{desert} willows

The cliffs appear to be a semi-consolidated conglomerate alluvial deposit (of bonying sized cobbles & fine sand). When washed from the low uplands above the river or eroded from the cliffs it leaves the cobbles in the stream bed proper or as high water on sandy benches above the bed — where the riparian vegetation grows. A simple community & at this



new sp. of yucca
w. of R.F. Hagon

Journal

¹/₂ July

5 mi. S. of San Lorenzo

season no understory or ground cover. Several aspects appear when comparing the country covered from the Sierra Mojina camp to this camp: ① The plains east of Mojina (and west perhaps) is a grassland with several species of opuntia, mesquite and 'catclaws'. The amount of these 'scrub' elements may be a reflection of grazing intensity. The worst grazed areas are flat, dirt of many cow chips and little grass, or unpalatable plants. ② At Mojina and to R.F. Magon Larrea, a typical desert element appears on the alluvial fans and the rocky slopes. Desert vegetation like ocotillo, and others like agave are on the rocky slopes in exposed situations. ③ West of R.F. Magon the vegetation is very different; it is a Larrea desert of rolling hills with an expanse of grass, with a new species of yucca^{*}. ④ South of R.F. Magon the riparian influence is sharply defined and narrow. The availability of the river makes stock raising very practical - even in a desert situation. Thus heavy livestock use would be restricted to a band, say a mile, from the river. Unless springs, etc. are developed, away from the river the influence of stock would be less. ⑤ The west side of the del Rio is extremely rocky with a thin veneer of soil, thus subject to erosion. ⑥ what kind of gradient is present N-S along the river?

Christman, G.M.
1969

23

Journal

¹/₂ July

5 mi. S. ~~to~~ San Lorenzo South to Lea Ranch, Chihuahua
South to San Lorenzo the hills & upriver benches were
rocky to loan-cobles with Ocotilla, opuntias, catclaw
and mesquite predominating. about San Lorenzo
the adjacent areas were virtually nude - even the
mesquite, probably cut for fire wood, was minimal.
at the camp site there were "ranches" on the uplands
relatively small and grazed low. Left at noon to S.
a "pencil" opuntia & a very spiny one are present,
plus a yucca. The hills we have, abundant Ocotillo
many with green leaves. Some areas with dry grass
in swales. 2 mi. S. scaled quail. a flat plain, no
grass, cow chips and all kinds of opuntia. Near big
arroyos are pure rocks and loose rock, with
usual plants dead. Grassy hills toward mt
both east and west (this range appears like the del
Hido at this lat.) Some small ranches are entirely
rocky inside fence, with dead cattle, even the
cholla is dead. Up a hill - overlooking a bend
in the S. C. River. Huge Cottonwoods with Great Blue
Heron nests (11 mi. S. San Lorenzo) at least 5 nests.
area grass & slopes desert. a fence line - to N. grass,
S. ^(no grass) rocky - Ocotillo on both, but even stunted cholla
hattered. Many cattle near river, little grass in late
areas. (12 1/2 mi. S./S.L.) saw first oaks near the
river, and to SW the first string of encinal to river.
Turned E. up a big arroyo - grass only, then
the first clumps of agave, yucca & Dasylirion.

photo

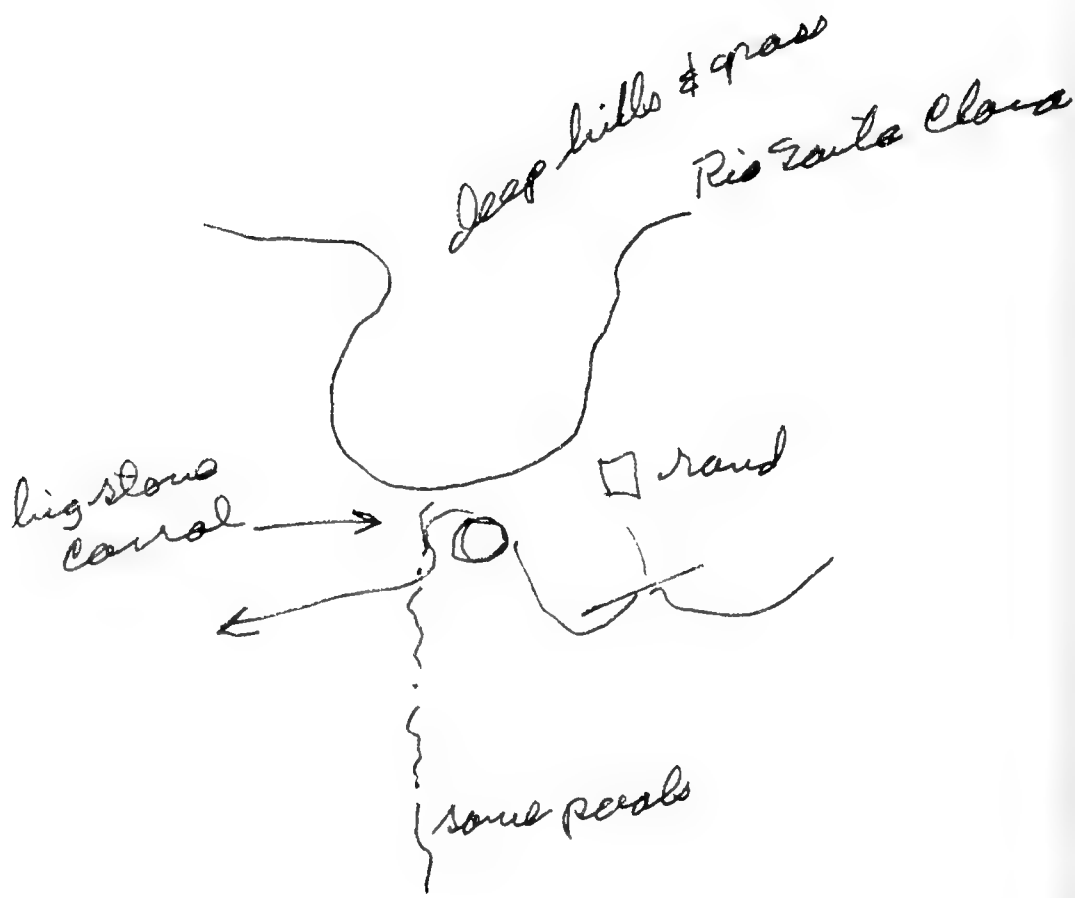
Christman, G. W.
1969

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Journal

$\frac{1}{2}$ July

From Santa Cruz to Zea Ranch, Chihuahua, Mexico.
and desert willow at bottom, some catclaw & ~~Oca~~ Ocotillo
on hill sides. The grass has not been grazed down -
the first oaks, with 2 piñon and 2 juniper - which ?
Out onto rolling upland with a few Ocotillo & juniper.
a mesa to SE with horizontal strata & rim rocks,
a big canyon to the S. Again & again Ocotillo on
rocky slopes (natural !). Junipers on hills, down
hill to a canyon (dry) with cottonwoods; up the
draw to S to ridge with oaks and alligator juniper
and agaves. Many of the oaks are bare. Yucca
Mexican jay. a broad stemmed ~~ag~~ cholla & mesquite
pad cactus, good grass, piñon & shreadbark juniper
into a broad grassy valley - view to S - cottonwoods
up a shallow valley to a fence line - oaks with
blackhacks and slummy leaves. 1 p.m. 6000' a
raven, western blue bird & Mexican jay - nest
This place looks like open areas at Hastings
reservation, dense dry grass. Over a saddle
between rocks to cottonwoods, water & cattle &
oak groves; a fence to west (N-S) grassy a few
junipers (canyon) down hill to west, grass, a few
small oaks & cottonwoods at bottom; junipers
to the E. Rocks & Ocotillos, piñon. Lots of lava
and related rocks. Into another drainage - more
juniper & rocks & Ocotillos into fair grass, to a new
drainage to S., same except N facing slope has
more oaks the spotty. Huge cottonwoods to W, -



Journal.

2 July From 5 mi. S. San Lorenzo to Zea Ranch, Chihuahua, Mex.
and grassy hills of the Santa Clara River. To dry
stream bed, Oaks up the hill, junipers below (shred
leaf soil). The "walnut" is frequently seen in
the valley bottoms with cottonwoods. Along a river
bed - $\frac{1}{2}$ of the oaks are dormant, to a ranch with
2 huge stone corals (square).

Thus far ^(shredleaf) junipers are lower down the hills than
the oaks.

Christman, G. L.
1969

26

Journal

¹
~~12~~ July

Lloron,

F. del Alamo, ~~La Ranch~~ ^{Sierra del Nido}, Chihuahua, Mexico stopped at Hg. ~~about~~ and then came up to camp site above the spring with the large metal tanks. Only several places with available water. Made camp immediately. The sun was soon off of the highlands and soon heard 2 spotted owls to the E. of us about 100 yds. Set up 2 sets of nets caught a ♂ house finch that Eric put up and I saved a white-breasted nuthatch. Released a imm. western bluebird. Many cattle in the immediate vicinity. a quiet night.

²
~~12~~ July

up early from the lower net: painted red start. Stayed in camp to write notes from yesterday. Camp birds: Stellar & Mexican jay, many flickers and acorn woodpeckers, ~~coars~~ Flycatcher, Mexican junco. at noon a large roven with a wedge tail soared over. Several turkey vultures. Several Robins. 1: p.m. went to spring & sat down saw: an arizona & hairy woodpeckers & several chipping sparrows. A ~~small~~ ^{humming} bird came in - a ♀ white-eared (luffy breast) came in & drank from water coming out of the pipe. The stream out of the pipe is about 2' long - the bird hovered down the stream. It then hovered over small pools of water & lowered itself to water, so feet, belly & tail touched the water - this many times. It settled in - 1/2" of water & flipped its bill & head in a downward & upward movement - 3 times. Then to short jumper where it buzzed its wings & fluffed feathers then flew off. A minute later the ♂ came by & drank the same way from the

Christman, G. M.
1969

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Journal

2 July

Lloron, Sierra del Nido
Arroyo del Alamo, ~~Sierra del Nido~~ Chihuahua, Mexico

stream of water, down the stream - I don't know how it drank. It also momentarily rested on the ~~tip~~^{lip} of the 3" pipe, and gazed - it to settled in water in small pool below the pipe. Flew to an adjacent juniper - & died the same way. Saw a flash & a trogon flew into a Quercus rugosa which was extremely dense. Got one more glimpse of it - rather brown. Then walked back to camp - 200 yds. Heard a quiet, hoarse "haw, haw, haw" - looked up the hill - at 50 yds saw a spot of red - it was a male Coppery-tailed trogon facing me. It was within the canopy on a 4" branch facing me. It was not sitting upright. Kept right on calling - watched it for several minutes before it flew. It was in a silver oak - with huge plates of lichen on the trunks. Cassin kingbirds, Black-headed Grosbeak, House wren also seen, the former is the most abundant.

This area does not have the conifers that the A. S. Mestizo camp has. Although this is a dry year which ~~the~~ certainly affects the judgement - this canyon is more open than the camp at Mestizo. Here the NE slopes are covered with a 2 1/2' open carpet of Arctostaphylos which is now burnt to tan-pink leaves. The open slopes are grazed down to rock & stubble. But the general aspect is not as severe as our recent camp on the east side of the range where the Xeric



Journal

2 July

Elarou, Arroyo del Olmo, Sierra del Nido, Chihuahua, Mex.
influence is much greater. The occurrence of cacti, yucca and Dasylirion is much greater - except for the San Lorenzo low elevation areas. The eastern slopes ~~are~~ ^{are} being drier because of the rain shadow. The camps are much lower because of truck access - steepness is greater there for horizontal miles. And thus access to equal elevations harder. Here, this and the Mesteños are next to the camps we were at over the divide. The canyons on the east side are steeper and deeper; here the walls are steeper and thus not as dry. Except for the lower escarpment the west side does not have the dominant leafless oaks as the east side.

3 July

Started out about 8 for the Mesa de la Venado. From camp to the saw mill area is much the same as the camp area - open and dry. Same species of plants. A red-tail hawk seen down canyon. White-throated Swift. Several Creepers in a Pinus Flexilis. Up the left hand canyon on a steep road. This is one of the most lush mesic forests I've seen in this range. Oaks predominate the bottom & west facing slopes. Q. rugosa and the dark ridge leaf oak predominate as handsome large trees. Even green broken fern, deep moss and lichens. Saw: a solitaire, house wren, rufous-sided towhee, red-faced warbler, flicker, western bluebirds, and hairy wood pecker. Surrounded by huge rim rocks. This opens out on to a

~

Christina Gh.
1969

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Journal

3 July

Elorou, Arroyo del Alamo, Sierra del Nido, Chihuahua
a broader, drier canyon with spotty pines and a
few open canes of a dried out manzanita, and
several other shrubs that are green - many Angus
cattle in here. Saw: black-faced bush-tits & Cassin's
kingbird. The trail got progressively steeper -
onto the top of Mesa de la Venado - the substrate is
a red volcanic rock and a red-tan soil; a
small ceonotus. And many pines; alligator &
shrub junipers. Like all the country covered
to day it has been lumbered. There seems to
be two types of pines here & both seem to be
setting cones. Violet-green swallows in numbers,
House Finch, Mourning dove, Chipping sparrow,
Mexican juncos & chickadees. Agave parvif. The
only oak on top is the encino oak which is so
predominant - with pubescence on both surfaces.
Over the edge of the mesa and SW facing are good
sized trees of *Q. rugosa*, and the lighter bicolored
oak (4" leaves). A number of Douglas firs in
this situation. In this locality I found a turkey
raco - the tree was a huge old ponderosa
type pine with heavy limbs in an asymmetrical
form. The top of the tree was even or below
the level of the mesa and 70' ± down the
hill. The ground was littered with droppings
and feathers, both contents and flight.
Found a newly fledged stellar jay.

Christman, G. M.
1969

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Journal

3 July

Lloron, Arroyo de la Alamo, Sierra delviso, Chihuahua, Mex.
down from mesa de la Venado. Near the top of the mesa are white rocky areas which on the lumber road is pulverized into a powder. *Quercus* -? *Pinus flexilis* is abundant in the more open areas and has pendulous cones on their crowns. An ash and white oak as smaller trees in upper canyon bottoms. ~~It~~ It is difficult to describe this area pine wise - because of the lumbering, but it seems that pine are more abundant on northern exposures & canyon bottoms than on the exposed slopes. In the deep parts of the canyon with steep walls - *Q. rugosa* & the darker silver leaf oaks are dominant trees. As up canyon & near camp in shaded areas aspen form small groves as an understory & always on slopes above the stream bed on "talus" slopes. Canyon wren.

The ponderosa type pines are abundant, especially as seedlings - but *P. flexilis* and the 'fill' pine with the dark small cones are especially notable.

It was clouding up all day and rain started about 5:30 & became hard with much lightning by 8:pm. light rain during night

4 July

drying out & clear up. Cowbirds 10:30 a.m. a ♂ & ♀ purple martin suddenly appeared and flew about a burnt out snag just outside of camp -

Journal

4 July

Elorou, Arroyo de la Alamo, Sierra del Nido, Chihuahua
with girgling calling both lit & examined holes
at the top — suddenly they flew off up canyon.
Set camp at 11 a.m. The tarred plant with white
flowers is most abundant in the bottoms of the
canyon. On going out of Arroyo de la Alamo I
was dim pressed how dry and open the canyon
really is. The major plants were the abundant oak,
ponderosa like pine & the pine with many small
cones. The NW facing slopes were heavy in pines.
The presa above the gea headquarters had: 2 Dioy
ducks and one spotted sandpiper. Out toward gets
& SE toward the mosteño. In the Encinal only the
larger oaks are green, the smaller (ie. -10') are leafer.
About 15% ~~tree~~ cover is piñon and about 5% pine.
The pine with many small cones present — on this
species has cones when still a small tree as opposed
to all the others. At the Arroyo de Mosteño we parked and
walked less than 1/2 a mile to the 1961 "Lower Mosteño"
campsite. This time I was impressed by the closeness
of the canyon walls although nowhere near as high as
in other areas. Also, the denseness of the oaks — mainly
Q. rugosa & dark silver leaf, plus there are more
willows than I had remembered — more than
any other canyon. The road was in disrepair and
heavily washed and by the stream and by
with grass — no forbs. Sprinkled briefly and
started up the canyon. This Canyon is different

Journal

4 July

Arroyo de Mesteño, Sierra deluido, Chihuahua, Mexico
from the others for the walls are closer with a more shaded canyon bottom - the willows continue up to the Cabaña. The pines tower over the stream at a low level, there is water in the pools - the not running. Douglas fir and aspen come in at a lower elevation than elsewhere. The pines are as usual though the ponderosa type predominates. Ash starts here and become good sized trees as well as the labate Quercus. The north facing slopes are dense & relatively damp considering the general dryness. Again in general there is little undercover because of the closeness of grazing. The meadow below the Cabaña is green with a velvet growth of grass less than 1/4" with dry cow manure rafted into piles by the stream. The canyon bottom up to the forbes is dirt dry & exposed. (none of the lushness in August 1961). Camped at the Cabaña. The aspens are in small groves: 3 large, 8, 5, 3, etc. all on the N. facing slope. All day: Cassin kingbirds, and here violet-green swallows.

5 July

Started at 8 from the Cabaña to examine the saw mill area up the right fork. Passed 61 camp. First impressions: The canyon is very open with no undercover - except cow manure and six relatively fresh dead calves & more older groups of bones; There is more open water in this canyon than all others combined

Christman, H. M.
1969

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Journal

5 July Cabaña, Araya de Mesterio, Lea Ranch, Sierra del Nido, Chihuahua, Mex., although this might be due to the recent rain; the meadow below the cabaña & sawmill flat ^{are} grazed down to the ground. I remember the meadow as lush with a broad leaf herbaceous growth - now there are but a few heads with new leaves just emerging.

Pines reach their greatest development in size and density on north facing slopes - with elevation. From the slope opposite the Cabaña on up the right canyon the pines are dense with only a few variations. The variations are: ① In the most mesic situation of steepest slope - or greatest rim rock overhang Douglas fir shows up ② Ash, the lobate leaf oak in this canyon become huge (*Q. rugosa* not as much here as in the last camp; same for dark ~~fir~~ silver leaf oak). ③ Under these mesic conditions oak seems to play a significant role only near the stream not up the slope. ④ Aspen appears on N. facing slopes as individuals or as small groves - the greatest development is on rocky talus slopes.

Sawmill Flat - the shrubs are grazed down to the ground - the *Fallugia* likewise, another plant - unknown - perhaps a *Baccharis*. As I recall there were not as many young pines in 1961. Also, saw no clump of any oak besides the small upright ones on of the slopes; again - green near bottom & burnt above.

Journal

5 July

Heard parrots for the first time on this side of the range. Pinus flexilis and the lobate oak reach their greatest numbers and size on the steep N. facing slope where the canyon is the narrowest.

6 July Today heard a coppery-tailed trogon on the cliff opposite the Cabaña. As before it worked up canyon about half a mile & then back down canyon in the afternoon. Saw what looked like imm. rock squirrels. Flushed two montezuma quail in the valley floor near some pines — They had made many scratches in the pine litter under a P. flexilis. Heard whip-poor-wills and spotted Owls. Thus far have seen no snakes and the lizards are 3x more numerous since the ~~the~~ rain started.

7 July

Carl K. and I started up the left hand canyon just below the Cabaña. The Canyon is nearly north to south in exposure, no open water and no deeply cut stream bed. The pines are numerous in the bottom and appear to all be the "ponderosa" type. The most abundant oak is present. This is an open pine canyon with tall very open slopes covered with the 2' high oak — as elsewhere dry leaves on upper slopes. Flushed several pairs of montezuma quail from feeding areas. Then right into the Cañon de las Varitas (where the cowboys have set bear traps for walrus). This area is

→

saw 3 cotton-tails

2 pr. Montezuma quail
at about 9: a.m. a sudden
burst of cogate (?) call
from way up canyon

Christman, G.M.
1969

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Journal

7 July

Arroyo Mesteno and out of the canyon, Sierra del Rido, Chih.
almost pure pine of all age classes. This little canyon heads east & we stopped at a camp site where the Willis-Marginis camp was. There is no P. flexilis on the pine with the many small cones, nor any of the big-leaved oaks. The dominant pine has 3 needles, gray bark with deep vertical fissures (red inside) cones 3-4" in 2's or 3's. specimen collected. Left Cabana about 10: a.m. & headed down stream - again protected areas of Douglas fir, aspen & flat sandy areas with large willows. Crossed out of the Zee Property & SW across the encinal. Several Abrutus were seen - very minor. The soil is red here with a thick grass cover. There are a number of pines in the encinal besides the piñon (few junipers). This pine has pon-pon of long (10") needles in 3's. bark is red with black vertical fissures & red flakes. Cones 4" long, bract with a heavy recurved horn & spine. The crowns are rounded and the branches, especially the lower ones spread broadly & droop. collected same. In several areas near the road on flat, hard packed soil were clumps of a bush Lupinus with spikes of blue flowers. The bushes were up to 24"-30" high - the rancher told C.K. that they are very rare in appearance. Headed S. across llano & E. to the Wendronite colony - Many ~~horned~~ Horned Larks in grassland.

The most abundant oak
from eucinal to top
mesas is Q. grisea.

Christman, G. M.
1969

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Journal

6800 ft.

7 July

To Cañon del Alamo, Sierra deluido, Chihuahua, Mex

Several storms seen to W. & N.W. (into the deluido)
Got cheese & supplies at Mexican store. Tried to
find the road to Alamo Ranch, but had to back
track. Many Cassin Kingbirds about the colony.
The storm has lit the mountains to our north &
to the west at the end of a road (where we
eventually turned west to the Ranch we saw
a golden eagle and three coyotes tied to a fence
(photographed), backtracked. Then up the same
road again - along a fence line saw ♂ & ♀,
♂, ♂ Blue Grasshoppers all flew on our approach.
Then in an open grazing area we passed some
cattle grazing on our left. Suddenly a good
sized bird swooped down among the cattle &
proceeded ahead of us, then across in front of us
no more than 3 ft. above the ground. It lit on
the ^{short-}grass 30 yds. in front of us. It was a falcon of
more than medium size. It had a small black
bird in its bright cadmium yellow feet - probably
a cow bird. It started to pluck & eat it. The down
was a medium dark bluish-brown, white venter,
with a few transverse bars on legs - regular
falcon stripes on face, yellow cere & lighter
marks on the back of the head. Eventually it
flew low about 50 yds carrying blackbird - it has
dark scapulars so it was a Prairie Falcon - continued
up the road & to west as a violent storm hit.

Christman, J. H.
1969

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Journal

7 July Canyon del Alamo, Sierra del Nido, Chihuahua, Mex.
we had to stop for 20 minutes while it rained
huge amount of runoff. Continued in light rain to
ranch Hq. - talked to the foreman who showed us
a mt. lion skin. He had shot it in this yard. Went
on up canyon about $\frac{1}{4}$ a mile & set up camp -
everything wet. Continued raining into night.

8 July up early with light sprinkle until about 9 a.m. when
it opened. Scattered clouds and warm. Saw flickers,
Barn Swallows, Brown & rufous-sided towhees, Cassin Kingbirds,
sparrow hawks, curved-bill thrashers. Went up
canyon $\frac{1}{2}$ mi. + The canyon is from 50 yds to
20 yds wide and has a NNE orientation. There
are some extensive flats with clumps of brush in the
~~flat~~ following order of importance: the tassel plant
Fallugia p. in big patches, a newly sprouting ~~Baccharis~~
Baccharis & then a small cecropia. The walls of the
canyon vary in slope degree - but have the usual
bare oaks, rocks, grass and some piñon with
almost no Agave parryi only small rocky groups.
The area has been lumbered so the pines are now
an important element - indeed they are extremely
minor. The Lampson & persistent cone pines are about
the only ones. The riparian situation is most notable.
There are large trees of ash, cottonwood, dark leaf
silver-leafed oak plus others (collected) plus the blue
leaf one which is everywhere [also on hill sides the
short one] with minor amounts of cypress and

(Q. grisea)

Journal

8 July Cañon del Alamo, Sierra deluido, Chihuahua, Mex.
~~and~~ *Q. rugosa*, and alligator herb juniper. No
lobate leafed oak here. Many pad apuntia & small
carti - plus a crimson* lily on hillside - in flower
& ones with small basal leaves - strap like. Thus
the canyon is like the others, but with a greater
development of a true riparian growth, in
shaded areas the crown touch one another -
a low lying canyon with a diversity of oaks,
etc. much like the lower Mesteño camp.
Not as heavily grazed as Mesteño, lots of dry
grass. Leafless oaks above the lower level
of canyon with more piñon on adjacent
mesas. at 10:30 a.m. went to Cañon de
Escondido a small one west of C. d. Alamo & branches
at the ranch headquarters. The lower section is
steeper at the stream bed level although the
general terrain is gently sloping toward the
canyon bottom. Many large rocks and led rock -
Very shaded with luxuriant growth of moss, ferns,
and lichens - everything is very damp. Silverleaf
oak (darker one) and *Q. rugosa* are large trees.
Twenty or so feet above the stream level is the
normal ^{*Q. grisea*} ~~evergreen~~ ^{deciduous} vegetation - oaks & junipers
all oaks near stream bed are green. There are few
ashes and many coned pine. Just a good look at a
canyon aren. Many good pools of water with boat-
men hump & water straddlers - came out in a hurry.

collected

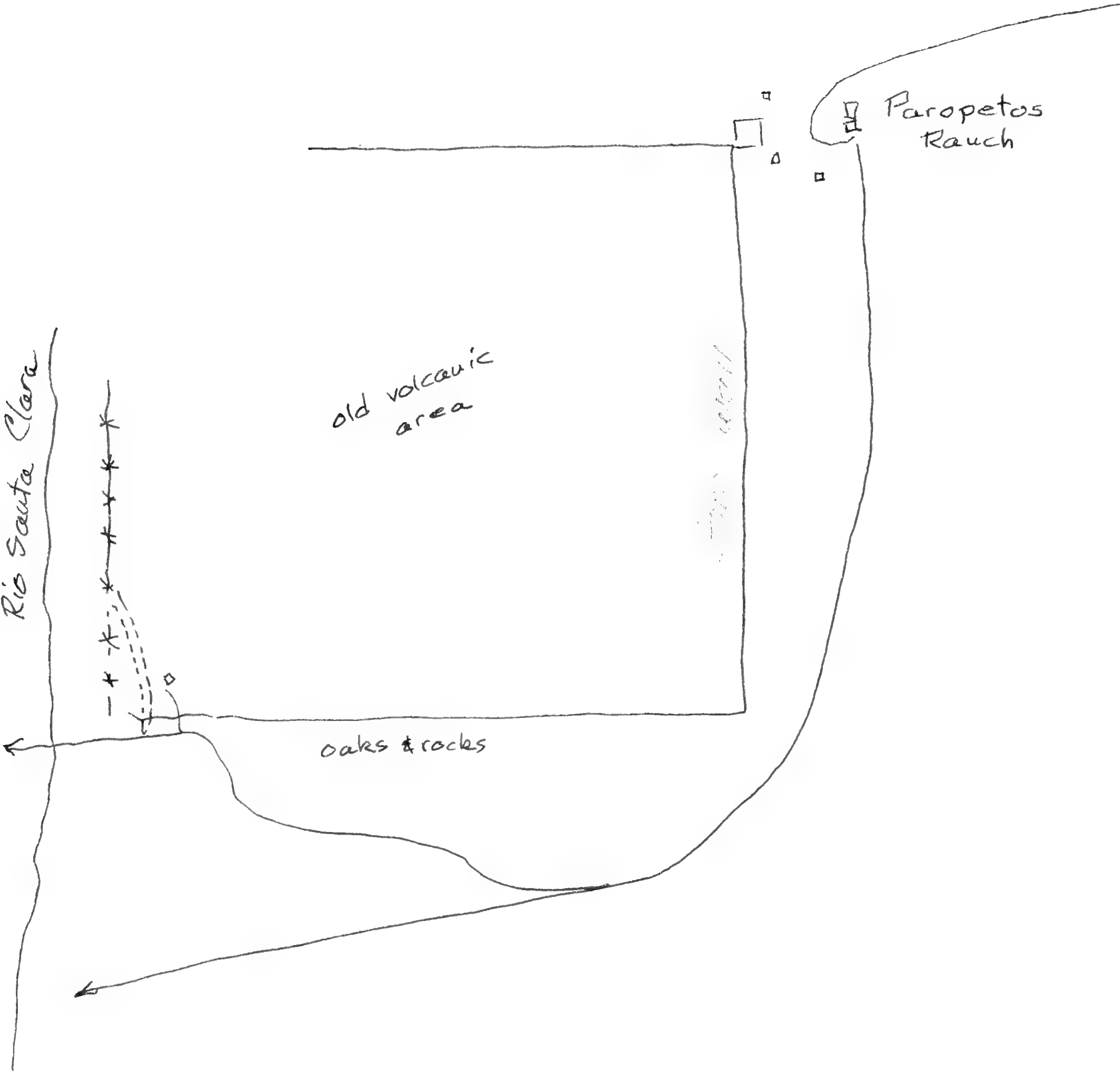
Rio Santa Clara

— * — * — * — * — * — *

old volcanic
area

oaks & rocks

Paropetos
Rauch



Christman, G.
1969

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Journal

8 July Cañon del Llano, Sierra del Nido, Chihuahua, Mex.
A chipping sparrow carrying nesting material at
bottom of canyon. Saw what appeared to be a scrub
jay, streaks on throat, but no well developed
chest band and had a gray back. Many
Gerrhonotus lizards seen on the rocks. W. Meadow
Lark, several mexican jays, Black-headed Gros-
beck, Ash-throated Flycatcher, ♂ Hepatic Tanager.
Clouded over & had a moderate shower for an
hour at 1: p.m. Went back to store & on to the
Parapetos Ranch, where we saw Boat-tailed
Grackle, House Sparrow & two Ring Ducks —
went on to the Santa Clara campsite of 1961.
at about 5:45 p.m. An adobe has been built
on the hill SE so we are staying there. Many
cattle on the meadow which is now short grass
and not the high forbs as before. Booming night hawks,
sparrow hawks, a dozen Ring ducks

9 July 1/2 mi E & 1 mi. S. of Santa Clara, Rio Santa Clara, Chihuahua
worked area S of fences at ford of river stream rapid &
very dirty, water had been much higher. Boat-tailed
Grackle, Killdeer, at least 15 Ring ducks, Vermilion
Flycatcher, Mockingbird, Mourning Dove, acorn wood-
pecker, Flicker and a yellow throat. Then to hills
& open slopes Horned Larks, Meadow Larks, Black-headed
Grackles, Flicker, Mockingbird, a ♀ hummer. The
predominant oak is Q. grisea by 90% or more with
Q. emeryi a weak second, a little Catalpa in parts

Christmas, Ariz
1969

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Journal

Nighthawk

9 July Rio Santa Clara, 1/2 mi E, 1 mi. S of Santa Clara, Chihuahua, Mex.
blossom now. Many ducks flying back & forth, and
several Great Blue Herons

10 July worked up the hill side E. of the adobe. Flushed a
pair of Montezuma quail at 8' on a grassy slope.
Searched but no nest; appeared to be a roosting
area. Was walking by an oak when a nighthawk
flushed very suddenly - my impression was that it
took off from the oak, it flew about the area calling.
Then it started to boom - every time in an area
150 yds from the original ~~sight~~^{site} and in an area 50 yds in
diameter at the very most. From 10:07 to 10:20 it had
boomed ¹⁷ times. Then it flew low (10-12') with horizontal
wings, quivering then lit on a horizontal branch of
a Quercus grisea, 8' from ground, or 2 ft. from ~~base~~^{canopy}!
45 ft from me. It sat parallel to the branch, head
away from the tree. Eyes were 3/4 closed, tail up from
the branch. It flew on my approach at 30 yds -
flew low, calling; another answered from the south,
and this bird lit in an oak 75 yds away.
Flushed another pair of Montezuma quail - again no
sign of a nest.

We left at about 11 a.m. for the Ciénega Santa
Clara. Went S at the east edge of the Mennonite Colony.
In this area - Q. grisea is the dominant tree, alligator
juniper is second, with other oaks very minor. Area is
well grazed, with many scrubby little oak seedlings.
Very few small pines - all in the flat country.

Christman, G.H.
1969

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Journal

10 July

to the Cañon de Santa Clara, Sierra deluido, Chihuahua^{max}
there are several shallow canyons across the
Mennonite Colony (east of Rio Santa Clara) with an
open parkland of smallish oaks (probably Q.
grisea). In every Mennonite yard there are
piles of card wood - probably oak - where does
it come from? Turn to the east and up a
gentle slope, scrubby oaks, lots of grass and
more lark sparrows (On the llano - between
Rio Santa Clara & Mennonites - the horned larks
were the most abundant bird). The first Rancho
E. of Mennonites is R. Santo Domingo. Same open
parkland with a few large oaks. Fallugia and a
Gaccharis in dry stream areas. Into hills - some
oaks, more ponderosa type pines, with broad
branches, drooping - not the pom-pom type -
dark fissures, canes in 2 or 3's. Piñons on the
rocky hills. Pines make up about 50% of veg.
Higher on hills the oaks are bare or newly opened
leaves (Q. grisea). Saw a badger, a scrub jay &
Contopus. The "persistent cone pine" present in small
numbers, more junipers. Many chipmunks. Saw cones
on the piñons. At the crest of the drainage -
pine still less than 50% - figure that there has
been extensive lumbering. Down into C.S. Clara -
Another oak appears - leaves 1-2", not emargin, both
surfaces smooth, small acorns, many leaves. Mileage =
460. Appearance of the Silver Oak in canyon, with Agave

Christman, S. M.
1969

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Journal

10 July

Cañon de Santa Clara, Sierra del Vido, Chihuahua, Mexico
peregrini, more oaks and pines, ash, arbutus, Q. rugosa
North slope more open with yucca. Stream is flowing
& great cliffs overhead. 461 - This is truly a "pine-
oak woodland." Dasyliion, at 462 the stream
disappears, North slope more open & S. slope a little
denser vegetation. 465 - Canyon opening and much
broader. No pines & fewer oaks. Ocotillo and pad-tops
opuntia cacti more abundant, tho still a variety
of oaks. Patches of Fallugia 466 - fewer oaks &
more evidence of overgrazing in the valley floor.
The desert elements - Ocotillo, yucca & Dasyliion on
exposed slopes - Oaks cover less than 1/4 of area on
the exposed hills. Bottom of canyon is willow, cotton-
wood, ash & ash-like tree with round seed heads.
More cover with catclaw & Fallugia, various
oaks. Cutaneous. While in camp several trucks of cut
wood went down canyon. Birds: robins, kingbirds
(Cassin), rock and canyon wrens, mockingbird
cantopus, a family of Scrub Owls in trees about
camp, Lesser goldfinches, both barn & cliff
swallows nesting, mourning doves, white-
winged doves, acorn woodpeckers, Brown
tashies, cowbirds & curved-billed thrashers.
We arrived at 5 mi. N. of Cerro Campana in after-
noon & stream was flowing & very muddy -
rain at night, stream as small pools next
day, left area at 1 p.m. with clouds above.

Christman, J. M.
1969

43.

Journal

11 July

From Sierra del Nido to Berkeley Calif. Leaving Cañon de Santa Clara juniper and a tree type yucca noted. On the flood plane = Q. grisea & Q. emargini, Saccharis, desert willow (in bloom) mesquite and good grass. From turnoff to NW to R. Providencia on much mesquite more grass where RR crosses road, with several limited areas of Larrea. Camped on desert 30 mi. S. of C. Juarez - heavy rain at night, mesquite.

12 July

Across border to Las Cruces & stayed with the Thadlers - they had a recent hail storm & mentioned the extremely dry season in Mexico

13 July

Left Las Cruces, New Mex. at 8: a.m. - to Globe Ariz. at 11:30 a.m.

Christman, Dm
1969

Plant Collection

25 June Ojo Laguna, Chihuahua, Mexico; Same as 1961
Camp

- ✓ 321⁺ "mesquite" - with pods, ^{not} frequent
✓ 322⁺ " in flower, ^{either} not frequent
✓ 323⁺ a small shrub not over
3' high in mesquite clump; no more than ^{away} 5%
✓ 324⁺ small procumbent forb.
with racets of small white flowers in mesquite
not abundant
✓ 325⁺ upright forb, up to 15"
high under mesquite. gray green leaves,
5 petals pale pink, recurved, 5 bright yellow
stamens very prominent.

26 June ^{East of} Ranch La Presidencia

- ✓ 326⁺ shrub, purplish flowers.
Canyon de las Varas, Sierra del Nido, Chihuahua
✓ 327⁺ ^{exposed flower} scarlet flowers of canyon.
✓ 328⁺ same, but shorter
✓ 329⁺ Cypress tall trees near stream bed
✓ 330⁺ Quercus 6,400' near stream med. tree
✓ 331⁺ " " " "
332 " silver oak
✓ 333⁺ two ferns - ^{last}
334⁺ } 2 cacti on dry moss, on rocks
335⁺ } under oak near cluster 1 wide, 8" high.
336⁺ Tillandsia with moss on tree - ^{near} ^{large} ^{claw}
✓ 337⁺ cactus on moss or rock

christman, G
1969

Plant collection

27 June Cañon de la Nigra, Rancho del Nido, Chihuahua, Mex.

✓ 338⁺ Quercus

not abundant

✓ 339[?] "

" " *Quercus*?

✓ 340⁺ 2 cacti *Cylindropuntia*

columnar, white spines, new pink

✓ 341⁺ " "

green rounded

342⁺ Quercus

larger than silver oaks

+ Cañon de las Veras

ch ✓ 343⁺

small tree near stream bed

ob ✓ 344⁺ Quercus

ob 345⁺

same as 343

? 346[?] Quercus

ob 347⁺ "

ch ✓ 348⁺ "

Rancho del Nido Hg, Sierra del Nido, Chihuahua, Mex

ch 349⁺

rocky hillside
yellow flowers, composite, exposed

28 June Cañon de los

350 ✓ 337^b

wagon rock covered with moss,

near large specimen - Cactus

29 June Cañon de Madona, Rancho la Providencia, lower Encinal

351⁺ ✓ 338^b Quercus

Big silver leaf

352⁺ 339^b "

small green pubescent

353⁺ 340^b "

small silver leaf

354⁺ 341^b *Cercocarpus*

white flower

355⁺ ✓ 342^b

abundant shrub none in flower *dry arroyos*

356⁺ ? 343^b Quercus

these two are the

357⁺ ✓ 344^b Quercus

most abundant

Christman, Gln
1969

C.

Plant Collection

- 29 June Cañon de la Madera, Rancho L. Providencia, Chihuahua
picked up by Koford,
Sierra Mojina site
with octillo
5 white petals, buried deeply, rocky soil
- 30 June same 3/4 mi. NW of Sierra Mojina site
rocky hill sides, yellow flowers, shrub
" " " " " "
- 2 July 5 mi. S. San Lorenzo, Chihuahua, beside Rio Santo Clara
6' shrub, white flowers, sandy soil
- 4 July 2 mi. N of Eloron, Arroyo de la Alamo, Sierra del Vido
Quercus in canyon bottom dark back
Mesa de la Venado
- 64 Pinus dark back, not pauderosa type
65 ? 3' high 5 white petals
shrub on dry canyon floor abundant
- 66 Pinus on summit
67 Quercus stream bottom
1 mi. from camp small tree
- 68 Pinus
69 Pinus
- Eloron, Arroyo de la Alamo, Sierra del Vido, Chihuahua
small tree near camp shade
- 5 July Arroyo Mesteno, Sierra del Vido, Chihuahua
the small shrub of open exposures
this is an important plant.
- Pinus ~~shrub~~ ? one of the most important pines
- 7 July Arroyo Mesteno
Pinus up left side canyon 'pauderosa'
type - see journal description

Christman, Jim
1969

Plant Collection

- 74⁺ 7⁺ July S. of Yca Cattle guard 4 mi
✓ 361 *Lupinus* shrub 2' tall flat dry area
in the encinal zone, compact soil, locally abundant
- 5⁺ 8 July Cañon de Alamo, Sierra del Nido
✓ 362 *Quercus* in canyon bottom
This is not what I have been calling silver oak, the
dorsal surface not dark enough -
- 16⁺ ✓ 363 *Sprekelia formicaria* (L.) Herb. lily on dry slopes, large buds, first
have a few flat leaves - color deep crimson,
rocky-grassy areas of S. exposure.
- 77⁺ ✓ 364 *Quercus* in canyon bottom
- 365 Cacti seed pods columnar type clusters
- ✓ 366 Cacti on exposed hillside
among rock & grass
- ✓ 367 " "
- ✓ 368 " "
- 369
- 370

